



NATURAL RESOURCES

The natural resources of a community represent a source of land and environmental amenities for development, as well as an integral asset in attaining sustainable development. The aesthetic and recreational appeal of natural resources can increase land development pressures. Therefore, the on-going challenge posed by natural resources planning is to achieve a balance between productive use of land and resources, maintenance of critical ecological functions, and the protection of residents and property from natural hazards. A thorough assessment of a community's natural resources base and subsequent incorporation of this resource assessment into planning efforts is necessary to avoid depletion or destruction of these sensitive, and often irreplaceable, assets. Valuing and investing in efforts to protect and improve the natural resource base helps support the quality of life for all residents.

The Natural Resources Element includes information on local geographic and geologic conditions, climate, agricultural and forest lands, plant and animal habitats, unique parks and open space, scenic areas, wetlands and floodplains, air quality, and other factors that can significantly impact the quality of life, while shaping the future development of the City and surrounding area.



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A. CLIMATE

As part of the Midlands of South Carolina, the Camden area benefits from a warm and temperate climate, with an average annual temperature of 61.6 degrees (Table 5-1). Winters are mild, with the earliest freeze generally occurring in late-October and the latest freeze in early April (Clemson Cooperative Extension, 2016). Residents experience an average low temperature of 29° in January and an average high temperature of 88° in July, historically the coldest and warmest months, respectively. When combined with an average humidity of more than 78%, the heat index can rise substantially in mid-to-late summer. The highest recorded temperature in Camden was 111 degrees on June 28, 1954.

TABLE 5-1. TEMPERATURE SUMMARY FOR KERSHAW COUNTY

TYPE	DATA AND RANK STATEWIDE
Average Temperatures	Annual: 61.6° F (276th highest) ¹ January Avg. Low: 29° F ² July Avg. High: 88° F ²
Average Humidity	78.1% (113th highest) ³
Average Annual Precipitation	42.97 inches (490th highest) ³
Average Growing Season	219 days (60% of every year) ³

SOURCES: ¹WORLD MEDIAN GROUP - USA.COM, 2017; ²THE WEATHER CHANNEL, 2017; ³KERSHAW COUNTY ECONOMIC DEVELOPMENT, 2016

Average yearly precipitation in the Camden area is 43 inches. Although prior ice storms in 1969 and 1973 produced record accumulations, snowfall and ice are not frequent occurrences. Only 12 winter storm events have been recorded in Kershaw County since 1997 (National Climatic Data Center, 2016). Kershaw County is considered moderately at risk for future winter storms, ranking 25th highest statewide in future probability of winter storm occurrence (2013 S.C. Hazard Mitigation Plan). More recently, the Camden area experienced two major rain events in 2015 and 2016, both in October. The 2015 event was one of the most prolific rainfalls in modern State history, with the highest totals recorded in the Midlands region. The National Weather Service reported that 15.4 inches of rain fell in Camden during the event, which continued from October 2nd through the morning of October 4th (National Weather Service, 2016). Nearly one year later, Hurricane Matthew made landfall on the coast of South Carolina, bringing winds and heavy rain of between six and ten inches inland to Kershaw County, with 4.34 inches recorded in Camden.

Drought is a period of time with less-than-normal rainfall. The South Carolina Department of Natural Resources (SCDNR) reports a one in four probability of a drought somewhere in the State at any time. Three of the State’s driest years since 1895 were recorded in 2001, 2007, and 2011. As of October 2016, Kershaw County was considered by the South Carolina Drought Response Committee to be at moderate risk for drought, with a status of incipient (there is a threat for drought as demonstrated by drought indices). Possible impacts from more severe drought conditions include likely crop or pasture losses, water shortages, and the imposition of water restrictions. In addition to local impacts, severe drought conditions can have widespread statewide impacts. Drought management activities enacted by inland areas that experience severe and prolonged drought can significantly alter lake levels, public intake, and downstream flows.

Severe weather can also occur in the Camden area in the form of thunderstorms and tornadoes. Thunderstorms are common in the summer months. The more violent storms generally accompany squall lines and the active cold fronts of late-winter or spring. Strong thunderstorms usually bring high winds, hail, considerable lightning, and, on rare occasions, spawn tornadoes. Hail falls most often during spring thunderstorms, with 20 hail events recorded in the City of Camden since 1997. According to the 2015-2020 Santee-Lynches Hazard Mitigation Plan, the percentage chance of annual severe storms and hail in Kershaw County is high when compared to other hazards.



May and August are the peak months for tornadoes in the region. The May peak is primarily due to squall lines and cold fronts, while the August peak is due to tropical cyclone activity. There were four tornadoes reported in the City of Camden from 1997 through July 2016, resulting in two injuries (NCDC Storms Database, 2017). An F4 tornado touched down in the greater Camden area in March 1984, causing \$4 million in damage and injuring 25 people in Kershaw County. The annual probability of a tornado event in the County is estimated at 44%.

B. AIR QUALITY

Air quality affects the public health, weather, quality of life, and economic potential of a community. One of the primary air quality concerns in South Carolina is ozone. In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard to reflect the greater understanding of the effects of ozone exposure and the need to increase the margin of public health protection. The NAAQS was most recently revised in 2015. Based on long-term monitoring data, the EPA designates areas as attainment (meeting the air quality standard) or nonattainment (not meeting the standard).

Should an area be designated as nonattainment, the S.C. Department of Health and Environmental Control (SCDHEC) and local governments must prescribe specific actions for reaching attainment within a specified time period. These requirements can significantly impact existing industry, economic recruitment efforts, and transportation in nonattainment and surrounding areas. For instance, the Nonattainment New Source Review requirement for areas lapsing into nonattainment status mandates a required level of emission reductions for new and modified industrial facilities. The expansion or improvement of local transportation infrastructure to support development can also be impacted under the Clean Air Act requirement that transportation plans, programs, and projects cannot create new violations to air quality standards, increase the severity or frequency of existing violations, or delay attainment of standards.

SCDHEC maintains a State Implementation Plan (SIP) that outlines the State's strategies for meeting NAAQS standards for six common pollutants as set forth by the Clean Air Act. Most of South Carolina, including Kershaw County, remains below the current threshold for ambient air quality standards. However, increased urbanization in the Midlands metropolitan area may have future impacts on Camden air quality. It is important that local leaders analyze and monitor factors related to ozone levels as part of the larger region and respond with local solutions that manage ozone within acceptable levels that ensure the health of residents, as well as the economic health and potential of the City. Ultimately, air pollution can have adverse economic effects on a community. Specific economic effects of air pollution include: damage to vegetation; reduced crop yields; increased corrosion of metals; and deterioration of stone and paint on buildings, cars and cultural landmarks. These potential impacts are of particular concern in the Camden area, where the success of the tourism economic sector is closely linked to the preservation of scenic historic and natural resources. In addition, air quality problems can impede recruitment of new industries and businesses to the area, resulting in reduced investment and employment opportunities.

In 2007, the City of Camden and Kershaw County participated as stakeholders in the Midlands Air Quality Forum and the development of the 2007 Regional Air Quality Report. The forum was designed to provide an opportunity for all stakeholders to take proactive steps toward improving regional air quality. For example,



a permit is required in Kershaw County to burn yard debris and the burning of items such as garbage, cardboard/paper, construction debris, treated wood, demolition debris, and tires is prohibited.

C. LAND RESOURCES

Kershaw County is located in central South Carolina and is bordered by six counties - Lancaster, Chesterfield, Lee, Sumter, Fairfield, and Richland. The City of Camden is located in the central southwest portion of Kershaw County. The City is approximately 11.7 square miles in size, with more than 94% of the area comprised of land and the remainder of water.

South Carolina is comprised of four major physiographic provinces – the Lower Coastal Plain, the Upper Coastal Plain, the Piedmont, and the Blue Ridge provinces. Kershaw County spans three of these regions – the Upper Coastal Plain and the Piedmont. The Fall Line, a narrow zone of transition between the Piedmont and the Upper Coastal Plain physiographic regions, bisects the County just north of the City of Camden. The City lies within the Upper Coastal Plain, with topography that ranges from fairly level to gently rolling hills and moderately rolling hills.

1. SOILS

In planning for future development, it is important to examine local soil conditions. Soil properties directly influence building construction and costs, roads and other improved areas, agricultural activities, the prevalence of prime agricultural lands, and the location and design of septic tanks and drain fields. Both the suitability and stability of soils should be taken into consideration when considering the feasibility of new development or major redevelopment. The existing soils on individual sites will determine the suitability of development for specific types of development such as low density residential (single-family), high density residential (multi-family), commercial, and industrial. This level of detail can only be determined by an individual soil survey for the particular site. However, large-scale soils data from the S.C. Department of Natural Resources (SCDNR) may be useful in an examination of future development potential for broader areas and districts within a community.

Information provided by the USDA Soil Data Mart for the City of Camden indicates that the major soils in Kershaw County are very deep, upland soils of varying slope (Table 5-2). Deep, well-drained soils are predominant, with slow to medium runoff. Permeability ranges from moderate to rapidly permeable. Soils with slow permeability have limitations affecting septic tank absorption fields. Much of the soil is not well suited to cropland, so intensive crop management is needed to maintain and increase production. However, the soils are generally well suited for pastureland. Soil erosion is a major concern for about 50% of the land in Kershaw County, primarily on soils with slopes of more than two percent.

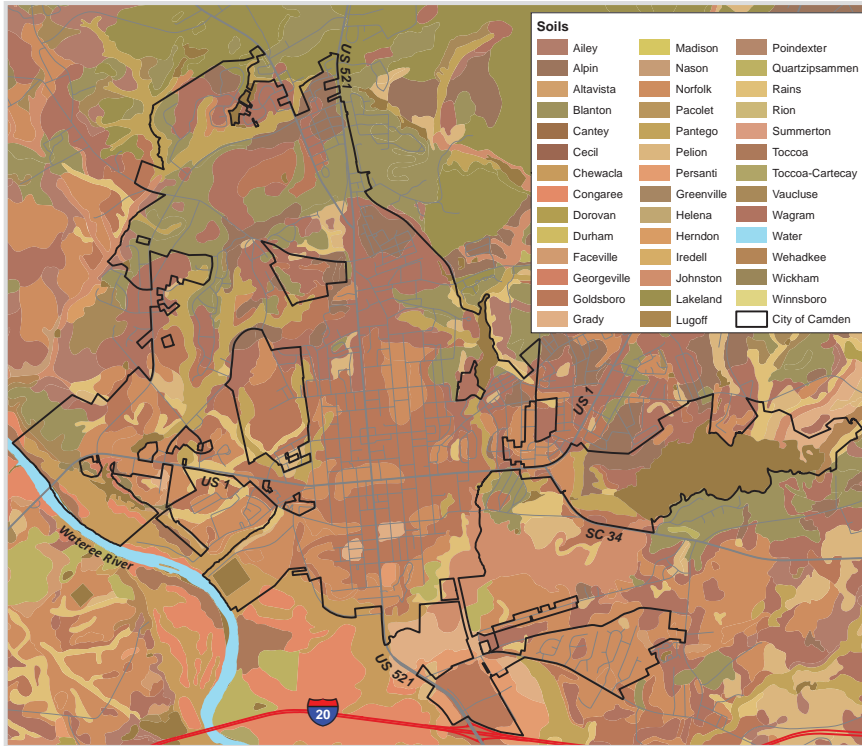
Wagram and Norfolk are the dominant soil series in Camden, comprising 16.4% (1,232 acres) and 15.8% (1,187 acres) of City soils, respectively. Nearly 11% of the soils in the City (812 acres) are of the Blanton series, 7.4% are of the Pantego series, and 6% are of the Alpin series. All of these soils are sand, loam, or a combination of the two. The major soil types present within Camden are characterized in Table 5-2.



TABLE 5-2. SOIL TYPES WITHIN THE CITY OF CAMDEN

SOIL NAME	SOIL TYPE	SLOPE RANGE	PERCENTAGE (ACRES)	CHARACTERISTICS
Wagram (WaB)	sand	0 to 6%	16.4% (1,232 ac)	Very deep, somewhat excessively drained, moderately slow or slowly permeable soils on uplands in the upper and middle Coastal Plain.
Norfolk (NoA, NoB)	loamy sand	0 to 6%	15.8% (1,187 ac)	Very deep, well drained, moderately permeable soils on uplands or marine terraces in the lower, middle or upper Coastal Plain.
Blanton (BaB, BaC)	sand	0 to 10%	10.8% (812 ac)	Very deep, somewhat excessively drained to moderately well drained, moderately to slowly permeable soils on uplands and stream terraces of the Coastal Plain.
Pantego (Pe)	loam	0 to 2%	7.4% (557 ac)	Very deep, very poorly drained, moderately permeable soils in nearly level and slightly depressional areas of the Southern Coastal Plain and Atlantic Coast Flatwoods.
Alpin (ApB, ApC, ApD)	sand	0 to 15%	6.0% (454 acres)	Very deep, excessively drained, moderately rapidly permeable soils on uplands and river terraces of the Coastal Plain.
Chewacla (Ch)	loam	0 to 2%	3.7% (276 acres)	Very deep, somewhat poorly drained, moderately permeable soils in floodplains in the Piedmont and Coastal Plain river valleys.
Rains (Ra)	sandy loam	0 to 2%	2.7% (204 acres)	Very deep, poorly drained, moderately permeable soils on flats, depressions and Carolina bays in the lower, middle or upper Coastal Plain.
Pelion (PnA, PnB, PnC)	loamy sand	0 to 10%	1.9% (143 acres)	Very deep, moderately well drained, on marine terraces and uplands of the middle and upper Coastal Plain and Sandhills.
Johnston (Jo)	loam	0 to 2%	1.3% (96 acres)	Very deep, very poorly drained, moderately rapidly permeable soils in floodplains and swamps in the lower to upper Coastal Plain.
Grady (Gr)	loam	0 to 2%	1.3% (95 acres)	Very deep, poorly drained, slowly permeable soils in upland depressions and along drains of the Southern Coastal Plain.
Persanti (PsA)	sandy loam	0 to 2%	0.9% (64 acres)	Very deep, moderately well drained, slowly permeable soils formed on old stream terraces on the Coastal Plain.
Ailey (AeB, AeC)	sand	0 to 10%	0.7% (52 acres)	Moderately deep, well drained or somewhat excessively drained, slowly permeable soils on marine terraces and low hills in the middle and upper Coastal Plain and Sandhills.

SOURCES: USDA NRCS SOIL DATA ACCESS, 2016; USDA NRCS OFFICIAL SOIL SERIES DESCRIPTIONS, 2016



MAP 5-1. SOIL TYPES

SOURCE: USDA NRCS SOIL DATA ACCESS, 2016

2. SLOPE

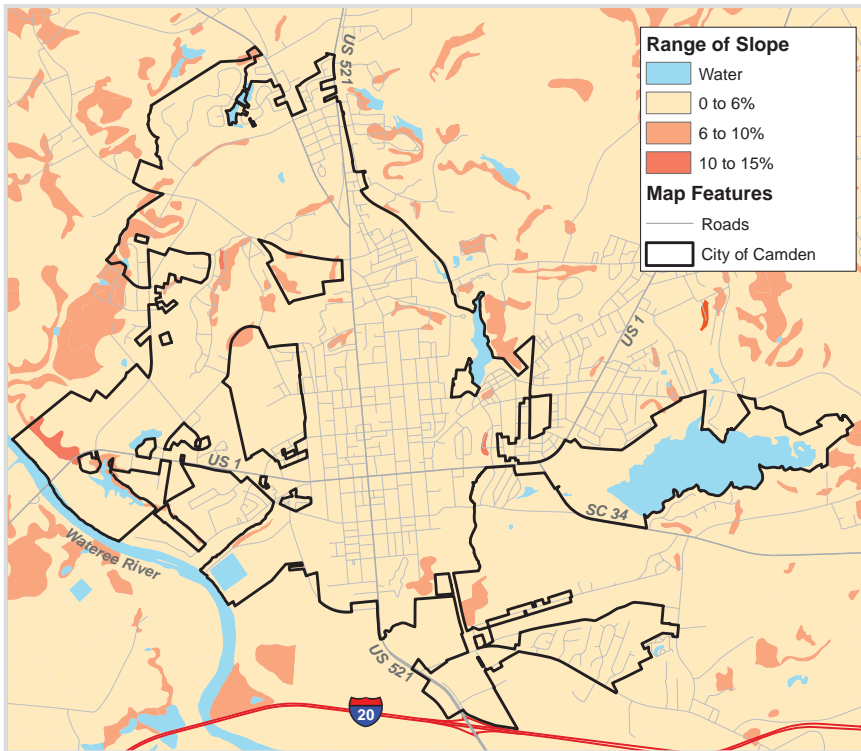
Slope characteristics have a direct impact on the types of land uses that have developed or may be developed in the future. Sites with slopes of less than 8% are typically most easily and cost effectively developed and are appropriate for most types of land uses. As the percentage of slope increases, sites become more difficult and expensive to develop, with increased limitations on the types of land uses that are appropriate. Table 5-3 provides a general listing of land uses and their associated slope limitations.

The City of Camden’s lowest elevations are found in river and creek beds. The highest elevations are found in small areas to the east of Elkrigde Drive, west of Dubose Court, and north of West DeKalb Street in the westernmost area of the City. Map 5-2 illustrates the topography of Camden and the surrounding area based on slope ranges provided in the most recent soil survey conducted by the U.S. Geological Survey (USGS).

The topography of the City of Camden is conducive to many types of development. Based on the general slope range characteristics in Table 5-3, more than 89% of the land area in the City (6,712 acres) has a slope of 6% or less and is suitable for all types of land uses. Development suitability is slightly more limited for 3.7% of the City (278.5 acres), where the slope range of 6% to 15% largely accommodates residential and light commercial development. Areas at the higher end

TABLE 5-3. SUITABLE SLOPES FOR GENERAL LAND USES

LAND USE	SLOPE
All types of land use where there is no danger of periodic flooding	8% or less
Residential and light commercial development	9% to 16%
Low-density residential development, not suited for commercial or industrial development	17% to 24%
Not suitable for any type of intense development	25% and greater



MAP 5-2. PERCENTAGE OF SLOPE

SOURCE: USDA NRCS SOIL DATA ACCESS, 2016

of the slope range may not be suitable for a wide range of development. However, other soil limitations such as wetness, permeability, drainage, and flooding may be difficult and expensive to mitigate, or may fall under regulatory limitations. Table 5-4 provides the acreage and percentage of total land area for major slope categories as determined by the most recent soil survey for Camden.

3. MINERAL DEPOSITS

The identification and location of mineral deposits can be important to the local economy. In South Carolina, these resources range from limestone, crushed stone, clay and sand to granite, marble, and vermiculite. The majority of South Carolina’s nonfuel mineral production results from the mining and production of construction minerals and materials (2013 Minerals Yearbook for South Carolina, U.S. Geological Survey). Although there are 16 active mining operations in Kershaw County, SCDHEC records indicate that there are no operational mines within or near the City of Camden. Eight of the mines in the county are sand extraction operations, four operations extract clay, and four operations extract granite.

TABLE 5-4. SOIL SLOPE PERCENTAGE IN CAMDEN

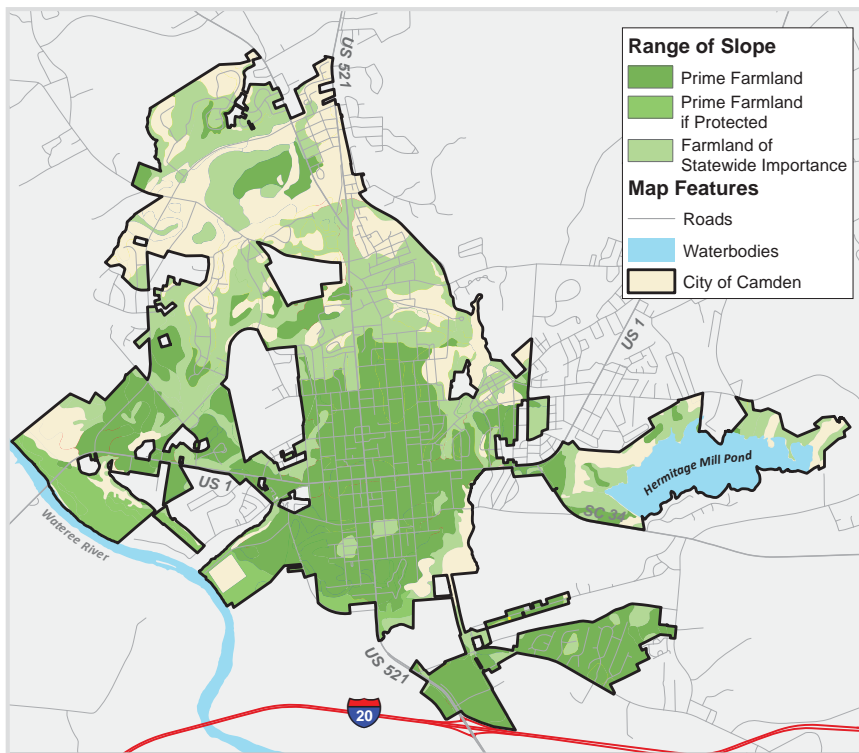
SLOPE	ACRES	PERCENTAGE
Water	515.4	6.9%
0 to 6%	6,712.2	89.4%
6 to 10%	238.0	3.2%
10 to 15%	40.5	0.5%
Total	7,506.1	100.0%

SOURCE: USDA NRCS SOIL DATA ACCESS, 2016

4. AGRICULTURAL AND FOREST LANDS

Agriculture and forestry are important components of both the landscape and the economy of the Camden area. These lands are home to many of the area's critical natural resources and provide valuable benefits including wildlife habitat, windbreaks, enhanced water quality, decreased ambient temperatures, groundwater recharge areas, mitigation of stormwater run-off and erosion, and open space.

USDA soil survey data reveals that a third of the City land area (2,860 acres) is considered prime farmland. Prime farmland, as defined by the USDA, is "land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses." Prime farmland soils produce the highest yields with minimal inputs of energy and economic



MAP 5-3. PRIME FARMLAND

SOURCE: USDA NRCS SOIL DATA ACCESS, 2016

resources and pose the least threat to the environment. Soils that have a high water table or are subject to flooding may also qualify as prime farmland if protected from flooding or not frequently flooded during growing season. Such soils comprise another 4.4% of the land area in the City, encompassing 333 acres of land.

States can also define and delineate soils that, while not designated as prime farmlands, may be farmlands "of statewide importance" for the production of food, feed, fiber, forage, and oilseed crops. These lands generally include soils that are close to meeting the requirements for prime farmland and that can economically produce high yields of crops, some as high as prime farmlands given favorable conditions,



when treated and managed according to acceptable farming methods. Based on criteria set by the State of South Carolina, nearly 30% of Camden's land area (2,235 acres) is considered to have soils of statewide importance to agriculture.

The relatively low topography and deep fertile soils of prime farmland can also make such lands the most readily available and least expensive to develop for residential subdivisions and commercial uses. Between 1982 and 2012, an estimated 395,900 acres of South Carolina's prime farmland were converted for development (Farmland Information Center, 2016). Continued conversion of prime farmland is especially likely within and near established cities and towns. While a large percentage of the land area in the City of Camden is classified as having prime farmland soils, only 2.4% of the land area in Camden (162.4 acres) is currently in use for agriculture or forestry.

Map 5-3 illustrates the location of prime and other important farmlands in the Camden area. Prime farmlands are located throughout the City, but are particularly abundant in the central and southern areas of the City, within and south of the City of Camden, and near water bodies, particularly along the Wateree River. Large areas of prime agricultural lands and farmlands of statewide importance adjoin the City to the south along the Wateree River basin.

5. PLANT AND ANIMAL HABITATS

Wildlife habitat is comprised of an interrelated and often complex combination of land and soil properties, food sources and vegetative cover, water, and other physical factors that contribute to the survival of a species population. The number, quality and scope of animal and plant species are directly dependent on the quality and size of their habitat. In turn, habitats are affected directly by natural and man-made factors that include agricultural, residential, industrial and commercial development, as well as fires and other natural disasters. Habitats declared critical to species identified as endangered or threatened are protected under federal and state laws to safeguard and promote recovery of the species. Endangered species are those for which there is a danger of extinction throughout all or a significant portion of its range, while threatened species are those identified as likely to become endangered within the foreseeable future throughout all or a significant portion of their range.

Protective measures for endangered plant and animal species include the development of recovery plans, the acquisition of habitat, and protection from disturbance for listed species. The definition of protection from disturbance differs between endangered plant and animal species. No penalties are incurred if endangered plant species are harmed in the course of legal land management practices. However, the intentional or negligent taking of an endangered animal species or destruction of its critical habitat is subject to prosecution under the Endangered Species Act. Destruction of an endangered plant is subject to prosecution under the Act if the plant is on federal lands including private land under management practices that require federal permits, or if the destruction occurs during the course of another illegal act such as trespassing.

All states must maintain lists of rare, threatened and endangered species under the National Heritage program. Species can be included on state lists, while not appearing on the national list, due to declining species populations in certain regions. The South Carolina Heritage Trust program of the SCDNR has identified plant and animal species at risk in South Carolina. The rare, threatened and endangered



species inventory for Kershaw County includes 12 animal species, one animal assemblage consisting of a waterbird colony, and 13 plant species (Table 5-5). Seven species, including a bat, a sunfish, the Bald Eagle, a tree frog, a woodpecker, and a freshwater mussel are considered to be endangered or threatened and vulnerable to extirpation in South Carolina. Most of these species were placed on the endangered species list because of the direct alteration or loss of habitat. The majority of the adverse impacts are man-made – including pollution, urbanization, poorly planned timber harvests, wetlands drainage, and conversion of land to agricultural uses.

TABLE 5-5. RARE, THREATENED, AND ENDANGERED SPECIES INVENTORY FOR KERSHAW COUNTY

SCIENTIFIC NAME	COMMON NAME	USES A DESIGNATION AND GLOBAL RANK	STATE RANK
INVERTEBRATE ANIMALS			
Corynorhinus rafinesquii	Rafinesque’s Big-eared Bat	Vulnerable, at moderate risk of extinction	Endangered - Imperiled statewide, rare or vulnerable
Elassoma boehlkei	Carolina Pygmy Sunfish	USES A Species of Concern - Imperiled, at high risk of extinction	Threatened - Critically imperiled, extremely rare or especially vulnerable to extirpation
Etheostoma brevispinum	Carolina Fantail Darter	Apparently secure, some cause for long-term concern	Critically imperiled, extremely rare or especially vulnerable to extirpation
Haliaeetus leucocephalus	Bald Eagle	Secure	Threatened - Imperiled statewide, rare or vulnerable
Hyla andersonii	Pine Barrens Treefrog	Apparently secure, some cause for long-term concern	Threatened - Imperiled statewide, rare or vulnerable
Myotis austroriparius	Southeastern Bat	Vulnerable, at moderate risk of extinction	Critically imperiled, extremely rare or especially vulnerable to extirpation
Picoides borealis	Red-cockaded Woodpecker	USES A Endangered - Vulnerable, at moderate risk of extinction	Threatened - Imperiled statewide, rare or vulnerable
Puma concolor	Mountain Lion	Secure	Presumed extirpated, virtually no likelihood it will be rediscovered
Sciurus niger	Eastern Fox Squirrel	Secure	Apparently secure, uncommon but not rare, cause for long-term concern
Semotilus lumbee	Sandhills Chub	Vulnerable, at moderate risk of extinction	Imperiled statewide, rare or vulnerable
Elliptio congraraea	Carolina Slabshell	Vulnerable, at moderate risk of extinction	Vulnerable to extirpation
Lasmigona decorata	Carolina Heelsplitter	USES A Endangered - Critically imperiled, at high risk of extinction	Threatened - Critically imperiled, extremely rare or especially vulnerable to extirpation
ANIMAL ASSEMBLY			
Waterbird Colony	Global rank not yet assessed	Conservation status not yet assessed	
VASCULAR PLANTS			
Anemone berlandieri	Southern Thimbleweed	Apparently secure, some cause for long-term concern	Critically imperiled, extremely rare or especially vulnerable to extirpation
Anemone caroliniana	Carolina Anemone	Secure	Possibly extirpated, some possibility it may be rediscovered
Draba aprica	Open-ground Whitlow-grass	Vulnerable, at moderate risk of extinction	Critically imperiled, extremely rare or especially vulnerable to extirpation
Isoetes piedmontana	Piedmont Quillwort	Apparently secure, some cause for long-term concern	Imperiled statewide, rare or vulnerable
Kalmia cuneata	White-wicky	Vulnerable, at moderate risk of extinction	Imperiled statewide, rare or vulnerable
Litsea aestivalis	Pondspice	Vulnerable, at moderate risk of extinction	Vulnerable to extirpation



TABLE 5-5. RARE, THREATENED, AND ENDANGERED SPECIES INVENTORY FOR KERSHAW COUNTY

SCIENTIFIC NAME	COMMON NAME	USES A DESIGNATION AND GLOBAL RANK	STATE RANK
VASCULAR PLANTS (continued)			
<i>Minuartia uniflora</i>	One-flower Stitchwort	Apparently secure, some cause for long-term concern	Vulnerable to extirpation
<i>Myriophyllum laxum</i>	Piedmont Water-milfoil	Vulnerable, at moderate risk of extinction	Imperiled statewide, rare or vulnerable
<i>Nestronia umbellula</i>	Nestronia	Apparently secure, some cause for long-term concern	Vulnerable to extirpation
<i>Nolina georgiana</i>	Georgia Beargrass	Vulnerable, at moderate risk of extinction	Vulnerable to extirpation
<i>Portulaca umbraticola</i>	Wing-podded Purslane	Secure	Critically imperiled, extremely rare or especially vulnerable to extirpation
<i>Quercus georgiana</i>	Georgia Oak	Vulnerable, at moderate risk of extinction	Critically imperiled, extremely rare or especially vulnerable to extirpation
<i>Rhus michauxii</i>	Michaux’s Sumac	USES A Endangered - Imperiled, at high risk of extinction	Presumed extirpated, virtually no likelihood it will be rediscovered

SOURCE: S.C. DEPARTMENT OF NATURAL RESOURCES, NOVEMBER 2016

6. PARKS, OPEN SPACE AND SCENIC AREAS

Camden area residents and visitors are fortunate to have access to numerous and diverse opportunities for outdoor recreation that include a state park, abundant water resources, nature and historic trails, and a number of smaller parks and recreation facilities. According to the national 2016 Outdoor Participation Report developed by the Outdoor Foundation, the most popular outdoor activities include running/jogging, fishing, cycling, hiking, and camping – all activities that are available in Kershaw County.

a. STATE PARKS

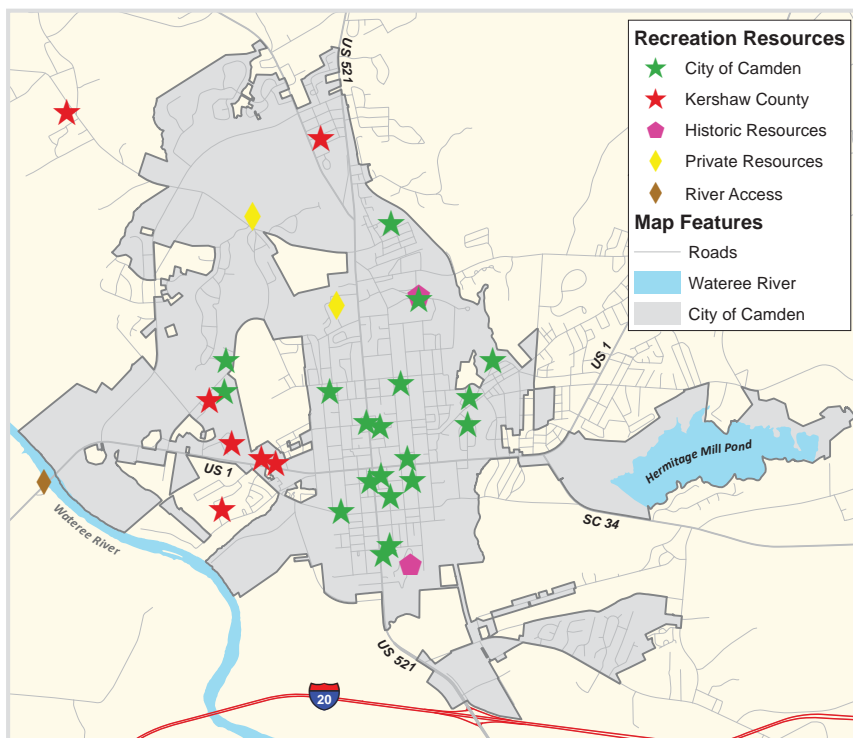
N.R. Goodale State Park is located to the east of the City of Camden, off of Old Stagecoach Road. Developed in 1973, the 763-acre park offers two picnic shelters, a community building that accommodates up to 60 people, a playground, volleyball courts, and canoe rental. Included on the property is the 140-acre, Civil War era Adams Mill Pond, where visitors can fish for bass, bream and catfish. The Park’s Goodale Canoe/Kayak Trail begins on Adams Mill pond and continues for 1.5 miles on Pine Tree Creek through a forest of bald Cyprus trees. In addition, the Park includes a 1.7 mile hiking/walking trail that winds through a forest of pine, oak, and rhododendron. Both trails provide opportunities to see a variety of birds and wildlife in a wilderness setting.

b. OTHER OUTDOOR RECREATION OPPORTUNITIES

The Wateree River flows south from Lake Wateree, touching the westernmost border of the City of Camden as it bisects the western area of Kershaw County. Public access for fishing and watching wildlife is available at boat landings located at the U.S. Highway 1/U.S. Highway 601 bridge just across the river from Camden and at the U.S. Highway 378/U.S. Highway 76 bridge. A key feature is the Wateree Blue Trail, which travels the length of the river beginning near Camden and winding 75 miles to its convergence with the Congaree River Blue Trail at Congaree National Park. One of the trail highlights is the upper section along the

southwestern edge of the City of Camden that includes numerous historic sites and burial mounds. The trail segment downstream from Camden includes miles of undisturbed wilderness.

Lake Wateree is located a few miles northwest of the City of Camden. The Lake is 13,864 acres in size, with 181 miles of shoreline that includes access to Lake Wateree State Park, the Shaw Air Force Base Recreation Center on Baron DeKalb Road, and a bird refuge (SCDNR, 2016). There are nine public boat ramps on the Lake, including three located in Kershaw County – Beaver Creek boat ramp on Becca Lane, Buck Hill boat ramp on Buck Hill Landing Road, and Clearwater Cove on Baron DeKalb Road. The S.C. Department of Natural Resources manages the diverse fish population of the Lake, which includes black crappie, striped bass, largemouth bass, and catfish.



MAP 5-4. PUBLIC AND PRIVATE OUTDOOR RECREATION RESOURCES IN CAMDEN VICINITY

SOURCES: CITY OF CAMDEN, 2017; KERSHAW COUNTY BUILDING PLANNING AND ZONING AND INFORMATION SERVICES DEPARTMENTS, 2017

c. UNIQUE SITES AND VIEWS

The Historic Camden Revolutionary War Park is a 107-acre outdoor museum complex located on South Broad Street in Camden that offers a view of life during the Colonial and Revolutionary War periods in Camden and Kershaw County. Included on the site are two circa-1800 log houses, the restored and refurbished 1785 John Craven house, the 1830 Cunningham house that also serves as offices and a gift shop, a blacksmith shed with a working traditional forge, the 1795 McCaa house, and reconstructions of fortifications built by the British. Also on the site is the reconstructed colonial Georgian home, now called the Kershaw-Cornwallis house, built by Joseph Kershaw that was commandeered as the headquarters of Lord Charles Cornwallis during the British occupation of Camden from 1780 to 1781. The Park also includes a 0.7 mile nature trail and picnic area. Self-guided, guided, and school tours are available. Special events include the Revolutionary War Field Days held the first full weekend in November, which attracts more than



500 re-enactors and includes a daily battle, living history demonstrations, traditional craftsmen, a period fashion show, and children’s activities.

The important Revolutionary War Battle of Hobkirk’s Hill (sometimes referred to as the Second Battle of Camden) was fought north of the City of Camden at the Hobkirk’s Hill Battle Site in April 1781. Although now a private residential area in Camden, wayfinder signs enable visitors to follow in the footsteps of the soldiers who participated in the conflict.

Built in 1898, the Camden Polo Field is the second oldest field in the nation and has been designated as a National Landmark.

The beginnings of the equine industry in Kershaw County can be traced to the development of Camden as a winter resort, with polo as the chief attraction. Although the sport declined during the second half of the 20th century, the Fine Arts Center of Kershaw County and the Camden Polo Club teamed to revive the sport in 2001. Today the Polo Field site on Polo Lane is held in perpetual trust by the Palmetto Conservation Foundation and is used for a variety of local events, including the annual Camden Cup polo match.

The Springdale Race Course is a 600-acre European style, Thoroughbred racehorse training center located on Knights Hill Road in Camden. Acquired by Marion duPont Scott in the 1940s, the course was deeded to the State of South Carolina upon her death with the caveat that the land remain solely for equine use in perpetuity. She also bequeathed a million dollar endowment for maintenance of the facility, which now includes both the Race Course and the National Steeplechase Museum. Springdale Race Course is home to the Carolina Cup, which is held each spring and is attended by more than 70,000 fans from throughout the Southeast.

d. MUNICIPAL PARKS AND OPEN SPACE

There are 36 public parks and recreation facilities encompassing nearly 495 acres throughout Kershaw County. Twenty-eight of these facilities are in Camden, comprising 337.52 acres. These recreation resources accommodate a range of outdoor activities such as picnicking and enjoying the outdoors; fishing and non-motorized boating; tracks and trails for walking or jogging; fields for baseball, softball and soccer; courts for basketball, tennis, and volleyball; and a park that accommodates flying model planes and launching model rockets. The City of Camden owns and maintains 21 of these parks and facilities, while Kershaw County operates six sites in the Camden community. Table 5-8 lists the parks and associated recreational resources within the City and Map 5-6 provides locations.

GOODALE STATE PARK (Courtesy of S.C. State Parks)





TABLE 5-6. PARKS AND RECREATION FACILITIES IN CAMDEN

FACILITY NAME	ACRES	FACILITIES
CITY OF CAMDEN	168.42	Total Acres
Archives Park 429 Laurens Street	1.8	Open space
Armory Park 1041 DeKalb Street	5.1	Open space
Boykin Park 1615 Campbell Street	5.5	Basketball court, playground, benches, picnic tables
Broad & Bull Four Corners Broad & Bull Street Intersection	5.4	Open space, contains City Arena
Broad Street Park 1001 Broad Street	0.3	Open space
Burndale Park 1134 Fairlawn Drive	1.7	Picnic table, swings
City Arena Park 502 Bull Street	1.0	Basketball court, playground, benches
City Hall Park 921 Fair Street	1.7	Slide, swings, picnic tables
Edgewood Park 803 Elmore Street	0.8	Playground, benches, picnic tables, basketball court
Groom Park 20 Five Bridges Road	2.8	Open space
Hampton Park 309 East DeKalb Street	5.7	Playground, benches, picnic tables, historic fountain
Kendall Lake Park 2001 Lakeshore Drive	51.0	Kendall Lake, boat ramp, club house, benches, picnic tables
Kendall Park 1500 Park Circle	10.3	½ mile walking trail, benches, picnic tables
Kirkwood Common 210 Kirkwood Lane	13.9	Open space, benches
Kirkwood Park 192 Stowers Street	7.0	2 basketball courts, playground, baseball field
Monument Square 1400 East DeKalb Street	4.8	Open space, benches, historic monuments
Powder Magazine 818A Market Street	0.02	Historic powder magazine
Rectory Square 310 Rectory Square	5.7	Playground, 2 tennis courts, benches, picnic tables, historic fountain
Scott Park 36 Ball Park Road	30.6	4 lighted tennis courts, ¼ mile running track, 1 mile walking trail, 4 sand volleyball courts, playground, picnic shelter, restrooms
Tennis Center of Camden 823 Campbell Street	12.9	16 tennis courts, 12 pickleball courts
Town Green 1015 Market Street	0.4	Open space
KERSHAW COUNTY	169.1	Total Acres
Kershaw County Aquatic Center 196 Battleship Road	4.3	Outdoor swimming pool and facility – open seasonally
Knights Hill Park 521 Knights Hill Road	4.0	1 unlighted ball park, 1 basketball court, 1 picnic shelter, restrooms
Larry Doby Complex 3 Competition Drive	70.6	4 lighted softball fields, 7 soccer fields, 4 tee-league fields, concession stand, restrooms



TABLE 5-6. PARKS AND OUTDOOR RECREATION FACILITIES IN CAMDEN

FACILITY NAME	ACRES	FACILITIES
KERSHAW COUNTY	169.1	Total Acres
Old Armory 1034 West DeKalb Street	3.8	Indoor basketball facility
Science Park 730 Park Road	30.0	Model airplane landing strip, rocket launching pad, restroom
Seaboard Park 1226 Laurens Street. Extension	17.9	1 softball field, playground, restrooms, recreation center
Woodward Park 82 Ballpark Road	38.5	1 lighted soccer field, 5 baseball/softball fields, disc golf course, picnic shelter, restrooms
TOTAL ALL FACILITIES	337.52	Total Acres all Facilities

SOURCES: CITY OF CAMDEN, 2017; KERSHAW COUNTY BUILDING PLANNING AND ZONING AND INFORMATION SERVICES DEPT., 2017

e. KERSHAW COUNTY BICYCLE, PEDESTRIAN, AND GREENWAYS PLAN

Eat Smart Move More Kershaw County (ESMMKC) developed a Kershaw County Bicycle, Pedestrian, and Greenways Plan in 2012 with funding support provided by Healthy South Carolina. The Plan combines past planning efforts with new research, analysis and public input. The development of the plan was guided by a stakeholder committee that included citizen advocates and representatives from multiple organizations and local groups. Kershaw County and City of Camden staff worked closely with the Committee during the development of the Plan with outreach that included public workshops, an online comment form, and dissemination of progress updates on the ESMMKC and County websites. One of the seven outcome goals set by the Project Steering Committee was to capitalize on the attractiveness of downtown Camden. The resulting Plan envisions “a connected network of on- and off-street bikeways, walkways, and trails that provide safe and family-friendly access between neighborhoods and community destinations for all ages and abilities.” To accomplish this vision, Plan goals include capitalizing on existing natural resources; improving safety of existing bicycle and walking routes; making bikeways, walkways and trails clean and inviting; establishing a connected network of bicycling and walking routes that link community destinations; promotion of bicycling and walking for recreation and transportation; and improving bicycle and pedestrian access between neighborhoods and outlets for healthy foods. The Plan recommends the addition of nearly 421 miles of new on-street bikeways and walkways and 166 miles of new off-street greenways, along with increased bicycle parking, to create a comprehensive and safe network. Priority projects identified by the Plan include more than nine miles of sidewalks and walkways in the City of Camden. Also included are recommendations for implementation, project management, and maintenance best practices.

f. URBAN FOREST

Urban forestry plays an important role in the visual identity of a community. Healthy trees, in particular, can increase property values, contribute to energy conservation, and decrease air pollution. At the same time, unhealthy or misplaced trees can create safety hazards through the blocking of lights, traffic signals and signage, as well as the risks associated with falling limbs.



The urban tree canopy is recognized as a very important resource and asset in the City of Camden. The City has been recognized by The Arbor Day Foundation and the National Association of Foresters as one of 3,400 communities nationwide and 41 in South Carolina designated as a Tree City USA. The City has maintained this status for 30 years by meeting four core standards for sound urban forestry management. The standards include maintaining a tree board or department, an active public tree care ordinance, a community forestry program with an annual budget of at least \$2 per capita, and an annual community observance of Arbor Day.

The Camden Parks and Tree Commission provides invaluable assistance to the Camden Public Works Department in the protection and maintenance of the city's tree canopy, as well as beautification of the community. The Department employs an Urban Forester who specifically focuses on taking care of Camden's urban forest. Residents with a concern about a public or private tree may request a tree check and a variety of information is available regarding tree care from the City's Urban Forester. The City also provides a tree species selection and planning list that ensures that the right tree is selected and planted in the right place. A tree permit application is required for anyone, public or private, who wants to remove, prune, or plant trees on public property, including City and State rights-of-way.

The City recently revised and expanded its Public Tree Ordinance to better facilitate comprehensive public tree planting, maintenance and management of trees, and designate responsibilities for implementation. In 2008, the City conducted a tree inventory that counted trees along street rights-of-way and in City parks, including species, diameter, location, condition, damage, existing tree conflicts (such as power lines), and recommendations for management. The inventory counted approximately 6,400 trees, as well as 300 available planting sites. Dead trees were identified and removed and those in immediate need of pruning were identified and pruned.

The Camden Zoning Ordinance includes landscaping requirements designed to "maintain and enhance the existing tree coverage in Camden, promote careful landscaping of outdoor areas, soften and enhance the manmade environment, reduce summer heat and provide shade, and to assist with stormwater drainage." Developed with the assistance of the Urban Forester, the landscaping requirements meet this intent, while ensuring to the greatest extent possible the future health of the plants through the selection of healthy and appropriate plants, proper planting techniques, and maintenance of plants. Clustering of plants and trees is encouraged to produce a natural appearance and the use of native species and incorporation of existing vegetation is encouraged. Landscaping is required in street and property buffers and in parking lots. Plants may also be used to meet screening requirements, and to soften the appearance of fences and walls where required. Tree conservation is required, with removal of or damage to significant trees as identified in a site plan within a public right-of-way, required buffer, setback, yard, landscaped area or open space not allowed. Trees must also be protected during construction. If removal of a significant tree is necessary, replacement with a tree selected from the City's List of Approved Tree Species and approved by the Urban Forester is required. In addition, single-family residential properties must contain a minimum of four trees, of which at least one must be in the front yard. The City's Urban Forester reviews landscaping site plans and inspects all landscaping to ensure that it is properly installed and maintained.



D. WATER RESOURCES

Water quality and availability is a key factor in future community and regional development efforts. The City of Camden relies on local surface water to provide water resources for residential, commercial, and industrial use.

1. PUBLIC WATER SUPPLY

The City of Camden provides water to approximately 6,900 customers within the City and immediate areas. The City also sells water at wholesale to the Kershaw County and the Lee County Regional Water Authority, also known as Cassatt Water. Raw surface water is obtained from Lake Wateree and treated and converted to potable water at the City's Water Treatment Plant. The 2015 Water Quality Report prepared by the City of Camden indicates that the levels of contaminants found in water treated by the City's Water Treatment Plant are safely below the maximum thresholds set by the U.S. Environmental Protection Agency (EPA).

LITTLE PINE TREE CREEK - KENDALL PARK



2. SURFACE WATER

The Camden area has an abundance of surface water, generally sustained by ample rainfall that includes several major water bodies as well as numerous creeks, ponds and streams. The availability of all water resources, particularly surface water, is strongly influenced by seasonal variations in precipitation and evapotranspiration. Evapotranspiration is the process by which water re-enters the atmosphere through evaporation from the ground and transpiration by plants. Evapotranspiration is generally high during the warm summer and fall months and low during the cool winter months. As a result, stream flows and lake levels tend to be highest in the winter and lowest in the summer and fall. Map 5-5 illustrates the surface water in and near the City of Camden.

As shown on Map 5-5, the Wateree River borders the City to the west. The River originates in the Blue Ridge Mountains of western North Carolina as the Catawba River. The name changes at the point where Wateree Creek empties into Lake Wateree and flows generally southward through Kershaw County and along the shared boundary of Richland and Sumter Counties. The Wateree River joins the Congaree River before the two form the Santee River approximately 35 miles southeast of Columbia. There are also a number of creeks and ponds of various sizes in the Camden area. Several streams of note are Camp Creek to the north of U.S. Highway 1 and Bolton Branch to the South of U.S. Highway 1 – both near the Wateree River, and Little Pine Tree Creek that flows north to south to the Wateree River in the eastern area of the City. Included among the City's larger water bodies are two former mill ponds. Kendall Lake is a 42-acre former



mill pond that has been a popular local recreational resource for more than 200 years. At more than 398 acres, Hermitage Mill Pond is also a popular spot for fishing and paddling.

While not in the City, nearby Lake Wateree is the water source for the City of Camden, which in turn provides water to its residents and businesses. Covering 13,864 acres, the Lake is the largest water body in Kershaw County and a major recreational resource. The Lake was created by the damming of the Wateree River in 1920 for the operation of the Wateree Hydroelectric Station. Full pond elevation for Lake Wateree is 284.4 feet above sea level. Both the Lake and the Wateree Hydroelectric Station are owned and managed by Duke Energy. Duke Energy monitors and manages lake levels, water quality, and shoreline development to balance and protect fish habitat, public water systems, industrial and power generation intakes, recreation access, and scenic value. While Lake Wateree was constructed for the primary purpose of hydroelectric power generation, it also provides some flood control by reducing the severity of peak flood flows, along with recreational opportunities for area residents and visitors.

3. GROUNDWATER

Groundwater is a significant source of drinking water, particularly in rural areas, and is an important source of water for manufacturing, irrigation, and power generation. Groundwater is also vital for maintaining aquatic ecosystems by recharging streams, lakes and wetlands and sustaining surface water supplies during droughts. It is estimated that approximately 60% of the water in South Carolina streams originates as groundwater (S.C. Water Plan, 2004).

While most of the water supplied to Camden users is from surface water, groundwater is also an important source for a variety of uses. In 2010, 1.83 million gallons of groundwater were withdrawn in Kershaw County



MAP 5-5. SURFACE WATER IN AND NEAR CAMDEN

SOURCES: KERSHAW COUNTY INFORMATION SERVICES DEPARTMENT; SCDNR GIS DATA CLEARINGHOUSE, 2016



for self-supplied uses including domestic and industrial uses, mining, livestock, and crop and golf course irrigation during that time period. The bulk of those self-supplied withdrawals, 1.13 MGD of water, was withdrawn for domestic uses.

Groundwater supplies are subject to seasonal variation and decline due to prolonged drought, but usually to a lesser degree than surface water supplies. Groundwater levels are lower during the summer due to increased pumping and reduced recharge, but usually recover during the winter and spring because of increased aquifer recharge and reduced pumping. Multi-year droughts lower aquifer water levels by limiting the recharge that normally occurs during the wet winter and spring months.

SCDHEC, SCDNR, and the South Carolina Water Science Center (SCWSC) of the U.S. Geological Survey (USGS) have cooperatively developed and are maintaining groundwater level monitoring networks within the major State aquifers. SCDNR routinely collects groundwater level data for 115 wells statewide to identify short and long-term changes in groundwater levels and storage due to withdrawals, recharge rates, and climatic conditions. Data is also used to calibrate groundwater flow models; to produce potentiometric maps for the major aquifers in the Coastal Plain Province; and to determine regional hydraulic gradients, groundwater flow rates, and flow directions of the major aquifers. Three of the monitoring wells are located in Kershaw County, with two located near Lake Wateree and a third in the northeastern area of the County.

4. RIVER BASINS

The precipitation that falls in South Carolina is drained by four major river systems – the Pee Dee, Santee, Ashley-Combahee-Edisto, and Savannah River Basins. The streams and rivers that drain each region are collectively called drainage basins. These basins generally traverse the State from the northwest to the southeast. The distribution of these systems is a key factor in the geographic disparity in water supply and demand that exists among regions.

The City of Camden is located within in the Catawba River Basin (Map 5-6). The Basin originates in North Carolina and extends into South Carolina, where it encompasses 1.48 million acres and eleven watersheds. The Catawba River Basin is further divided into the Catawba and the Wateree River Basins, with Camden located in the Wateree River Sub-basin.

The Wateree River Sub-basin extends through Fairfield, Kershaw, Sumter, Richland, Lancaster, and Lee Counties and encompasses 1,257 square miles, including 2,729 stream miles and 15,947 acres of lake waters. The Catawba River joins Big Wateree Creek to form the Wateree River, which flows through Lake Wateree. Grannies Quarter Creek and Sawneys Creek flow into the Wateree River downstream of Lake Wateree. Twentyfive Mile Creek and Big Pine Tree Creek enter the River near the City of Camden, followed by Swift Creek, Spears Creek, and Colonels Creek before merging with the Congaree to form the Santee River Basin. The Basin is the largest in Kershaw County and encompasses much of the central and eastern areas of the County. The Wateree River Basin is further subdivided into four watersheds.

5. WATERSHEDS

A watershed is a geographic area into which the surrounding waters, precipitation, sediments, and dissolved materials drain and flow to a single outlet. Watershed resources include both groundwater and



surface water, making watershed protection vital to preserving water quality. As water flows across or under a watershed on its way to a lake, river or stream, it is exposed to potential contaminants in the form of stormwater runoff and other pollutants. Development of natural areas can adversely impact water quality through the replacement of vegetation and forests with impervious surfaces.

As depicted in Map 5-7, the City of Camden is impacted by two watersheds in the Wateree River Basin. Detailed watershed data including the impacted counties, primary water bodies, area, stream miles and area of lake/pond waters is included in Table 5-7. Also included is additional information for each watershed including major wastewater and water treatment plants and monitoring stations.

TABLE 5-7. CAMDEN WATERSHEDS

WATERSHED	COUNTY	PRIMARY WATERBODIES	AREA (ACRES)	STREAM MILES	LAKE WATERS (ACRES)	ADDITIONAL INFORMATION
WATEREE RIVER BASIN (03050104)						
Upper Wateree River (03050104-02)	Kershaw, Lancaster, Fairfield, Richland	Wateree River and its tributaries from Lake Wateree dam to Twentyfive Mile Creek	202,806	749.0	1,261.1	Kershaw County/Lugoff WWTP discharges into Wateree River
Middle Wateree River (03050104-03)	Kershaw, Lee, Sumter, Richland	Middle section of Wateree River and its tributaries from Twentyfive Mile Creek to Swift Creek	175,248	546.3	1,288.6	City of Camden WWTP and Palmetto Utilities Spears Creek WWTP discharge into Wateree River

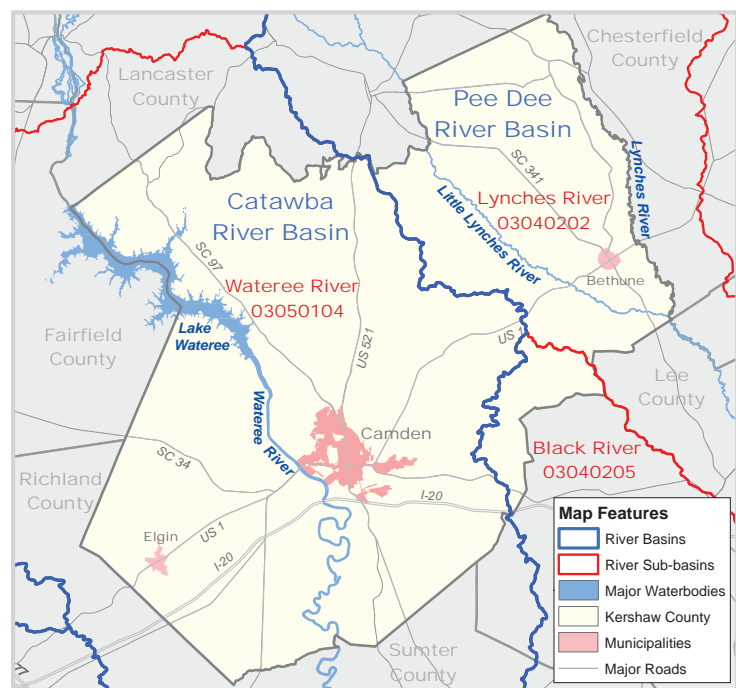
SOURCE: SCDHEC, WATERSHEDS, NOVEMBER 2016

6. WATER QUALITY

South Carolina’s abundant water supply has been a key resource in the development and growth of the State’s economy. The quantity of this water supply is integral to future community and regional development efforts, while the health and safety of residents depends on the quality of these resources. Although overall water quality is good in most parts of the State, increased urbanization and a growing population have contributed to rising levels of point source and non-point source pollution. Sustained growth will place greater demand on the water supply and make the protection of water resources a long-term priority.

Section 208 of the Federal Clean Water Act, as passed in 1972 and

MAP 5-6. RIVER BASINS AND SUB-BASINS



SOURCE: THE NATIONAL MAP, USGS, 2016

amended in 1987, established an area-wide approach to addressing surface water quality protection. This comprehensive and integrated approach to water pollution abatement provides criteria for designing local plans within a regional context. The State of South Carolina continues to use regional planning agencies throughout much of the State as a means of administering these requirements. In 2001, the Santee-Lynches Regional Council of Governments (SLRCOG) was designated as the water quality management planning agency for three of its four counties. Although originally part of the water quality management program of the Central Midlands Council of Governments, Kershaw County was transferred to the SLRCOG program in 2006.

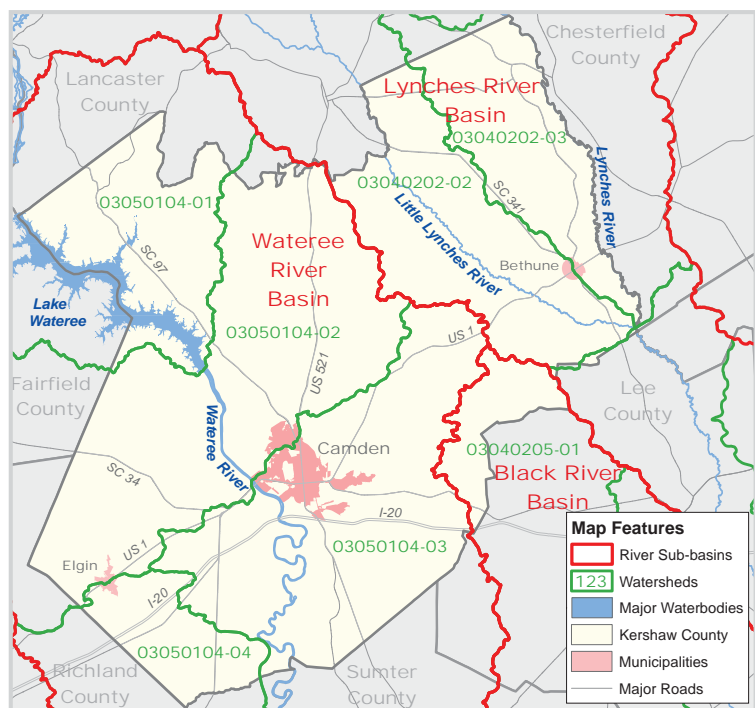
As the designated planning agency, the SLRCOG is responsible for updating and amending the Water Quality Management Plan (WQMP), which identifies policy priorities and provides recommendations for water quality management across the four-county region. In order to successfully implement the WQMP, the SLRCOG relies on designated Management Agencies to implement the Plan within designated management areas. Within Kershaw County, the City of Camden is the designated Management Agency for its jurisdiction and Kershaw County is the designated Management Agency for the remainder of the County.

The most recent update of the 208 Water Quality Management Plan for the Santee-Lynches Region was developed and adopted by the Council in April 2003 and updated in November 2010.

SCDHEC produced and regularly updates the Watershed Water Quality Assessments for the Catawba River Basin. Detailed updates to Watershed Water Quality Assessments for South Carolina river basins can be found online in the SCDHEC S.C. Watershed Atlas. While more complete assessments of local water quality are included in the SCDHEC documents, pertinent findings for Camden area water quality within the watersheds depicted in Map 5-7 are summarized in this section.

All waters within in the Camden area watersheds are classified as Fresh Water by SCDHEC. Fresh waters are suitable for primary and secondary contact recreation (swimming, water skiing, boating, and wading), for industrial and agricultural uses, and as sources of drinking water supply after conventional treatment. Fresh waters are also suitable for fishing and provide a suitable environment for the survival and propagation of a balanced aquatic community of flora and fauna. Statewide standards have been established to protect the suitable uses indicated in each classification, serving as the foundation of stream water quality goals designed to maintain and improve water quality. The standards determine permit limits for treated wastewater discharges and any other activities that may impact water quality.

MAP 5-7. WATERSHEDS



SOURCES: USDA-NRCS, GEOSPATIAL DATA GATEWAY, 2016; THE NATIONAL MAP, USGS, 2016

*WATEREE RIVER****a. NPDES PERMITTED ACTIVITIES***

As authorized by the Clean Water Act of 1972, the National Pollutant Discharge Elimination System (NPDES) permit program reduces water pollution by regulating point sources that discharge pollutants into waters. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge are exempt from NPDES permitting. However, industrial, municipal, and other facilities must obtain permits to discharge directly into surface waters. Accordingly, discharges from wastewater treatment systems owned by governments, private utilities and industries are required to obtain NPDES permits.

Wastewater facilities are monitored by SCDHEC regional offices of Environmental Quality Control for compliance with NPDES permits. SCDHEC issues permits for municipal facilities (municipal utilities), domestic facilities (private utilities) and industrial facilities (industrial pump and haul operations that generate non-hazardous process wastewater and domestic wastewater generated at industrial facilities). Facilities are further defined through the permitting process as either major or minor. For municipal permits a facility is considered major if it is a public facility and has a permitted flow of one million gallons per day (MGD) or more. Determination for industrial facilities is based on facility and stream characteristics including toxicity, amount of flow, oxygen load, proximity of drinking water source, potential to exceed stream standards, and potential effect on coastal waters. Table 5-8 provides a list of permitted NPDES facilities in the Camden area, sorted by type of activity. While the City's Water Treatment Plant is not located within the City, it is an NPDES permitted facility and is included in the list.

Public wastewater management in Camden is provided by the City of Camden. The City provides wastewater treatment to more than 3,950 customers within the City, as well as areas outside of the City northward along S.C. Highway 97 and eastward between U.S. Highways 1 and 521. Collected wastewater is treated at the City's Wastewater Treatment Plant (WWTP) before being discharged into the Waterree River. The City's WWTP is classified as a major municipal facility and has a permitted capacity of 4.0 MGD.



TABLE 5-8. NPDES PERMITTED FACILITIES IN CAMDEN

FACILITY NAME	WATERSHED	TYPE
City of Camden WWTP	305010403	Municipal Wastewater
City of Camden WTP	305010402	Municipal Water
Kershaw County/Lugoff WWTF	305010402	Municipal Wastewater
Clariant LSM (America) Inc	305010403	Industrial
Kendall Co/Wateree Plant	305010403	Industrial
Kendall Co/Wateree Plant	305010403	Industrial

SOURCE: SCDHEC GIS CLEARINGHOUSE, APRIL 2017

b. WATER QUALITY MONITORING

SCDHEC evaluates water quality through the collection of data from a statewide network of primary and secondary ambient monitoring stations that are supplemented by flexible, rotating watershed monitoring stations. The network provides data used to determine long-term water quality trends and attainment of water quality standards, identify locations in need of additional attention, and plan and evaluate stream classifications and standards. Network data is also used to formulate permit limits for wastewater discharges in accordance with State and Federal water quality standards and the goals of the Clean Water Act.

The State of South Carolina Monitoring Strategy establishes the overall goals and objectives for the SCDHEC water quality monitoring program to implement the South Carolina Pollution Control Act, the Federal Clean Water Act, and applicable State and Federal regulations. SCDHEC is delegated certain water quality monitoring responsibilities under these regulations, including water quality assessment, regulatory monitoring, and program evaluation. Detailed and regularly updated assessments of water quality monitoring data for watersheds are published on the Department’s S.C. Watershed Atlas website.

Multiple water quality monitoring stations are located within Kershaw County watersheds along major and secondary waterbodies, with three located in the Camden area on the Wateree River at U.S. Highway 1, on Big Pine Tree Creek near U.S. Highway 521, and on Little Pine Tree Creek at Dicey Ford Road. All three locations were identified as impaired waterbodies for recreational use as of 2014 due to high fecal coliform levels. The Wateree River station was also considered impaired for aquatic life due to dissolved oxygen. The 2016 report on the State’s impaired waters is pending final approval by the U.S. Environmental Protection Agency.

c. NONPOINT SOURCE POLLUTION

Nonpoint source (NPS) pollution cannot be traced back to a single origin or source. Such pollution includes fertilizers, herbicides and pesticides, animal waste, sediment, pathogens, household wastewater from failing septic systems, and contaminants such as street litter carried into water sources by urban runoff. Runoff occurring after a rain event moves pollutants across the land to the nearest waterbody or storm drain where they may impact the water quality of creeks, rivers, lakes, estuaries, and wetlands. NPS pollution may also impact groundwater when it is allowed to seep or percolate into aquifers. Adverse effects of NPS pollution include physical destruction of aquatic habitat, fish kills, limitations or elimination of recreational uses of a waterbody, closure of shellfish beds, reduced water supply, taste and odor problems in drinking water, and increased potential for flooding when waterbodies become choked with sediment.



In fulfillment of the federal Clean Water Act, the State of South Carolina, in conjunction with federal agencies and local governments, manages several programs which reduce the impact of non-point source pollution. The State's Non-point Source Management Program provides a framework for addressing the major causes and sources of nonpoint source pollution. The Program also outlines statewide goals and objectives for mitigating nonpoint source pollution, along with the strategies, management steps, partnerships, funding sources, and evaluation tools necessary to achieve these goals. SCDHEC is the responsible agency for monitoring nonpoint source pollution and assessing and reporting on the condition of the State's waters biannually. Surface waters that do not meet water quality standards are placed on a list of impaired waters with the source of impairment and corrective actions identified.

Types of nonpoint sources monitored by SCDHEC include mining operations, livestock operations, agriculture, and landfills, as well as land applications of effluent from wastewater treatment facilities. While there are no such facilities within the City of Camden, multiple facilities are monitored under the SCDHEC Nonpoint Source Management Program within Kershaw County watersheds. Up-to-date mapping and information for these facilities are found in the online S.C. Watershed Atlas published by SCDHEC.

Stormwater runoff from construction activities can have a significant impact on water quality as stormwater flows over a construction site, picking up pollutants such as sediment, debris, and chemicals and transporting these to a nearby storm sewers or directly to a river or lake. Kershaw County has been designated by SCDHEC as a review authority for the unincorporated urbanized area of the County that includes the Lugoff area and the U.S. Highway 1 corridor, as well as the Town of Elgin. However, SCDHEC regulates stormwater activity within the City of Camden through its Sumter office. Stormwater permits are required for any construction or land-disturbing activity such as clearing, grading, and excavating for all construction sites of an acre or more in size and many industrial sites. Applicants must submit a construction site plan and a stormwater pollution prevention plan when applying for a stormwater permit. For smaller sites, a simplified management plan may be submitted that does not require preparation by a licensed engineer, surveyor or landscape architect.

Local, regional, and State water quality management efforts recognize that the quality of the water supply is directly linked to development activities, demand, and land use practices within the watershed. When considering water quality in the comprehensive planning process, it is important to incorporate measures that protect valuable water resources from excessive runoff and discharge that may create unsafe levels of dangerous chemicals or bacteria. Attention to stormwater retention, percentage of impervious surfaces within developments, and industrial discharge are critical to ensuring water quality in the City of Camden.

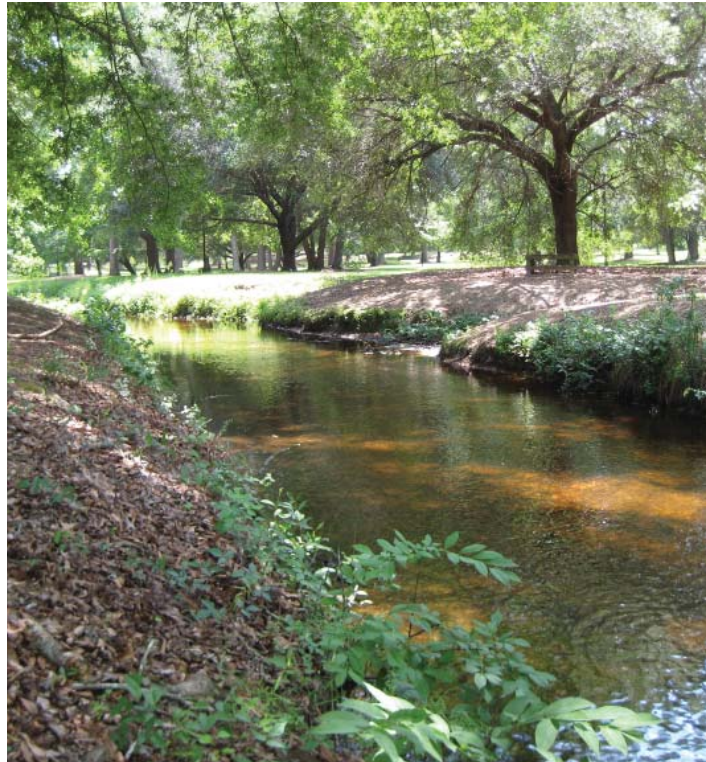
The City of Camden Zoning Ordinance requires low impact design for all non-residential projects and all residential projects containing more than ten dwelling units. The requirements are intended to "balance growth needs with environmental protection, reduce municipal infrastructure and utility maintenance costs (streets, curbs, gutters, sidewalks, storm sewer), reduce storm water management costs, preserve the integrity of ecological and biological systems, protect water quality by reducing sediment, nutrient, and toxic loads to water bodies, and to preserve trees and natural vegetation." Specifically, post-development discharge rates may not exceed pre-development rates on any development site. Site design must minimize impervious surface and alteration of natural vegetation and topography and landscape design must integrate natural features into the footprint of each parcel and ensure that water resources are protected. An undisturbed, vegetated riparian buffer of at least 50 feet is required along all perennial streams and



around all other water bodies. To the extent practicable, natural and vegetated stormwater management systems such as swales, rain gardens, constructed wetlands, and bioretention cells must be used to manage stormwater and comply with stormwater regulations.

The City's Land Development Regulations require the provision of drainage easements for roadways that traverse a water course, drainageway, channel or stream of sufficient width to carry off storm water and provide for maintenance and improvement of the water course. The location of any surface drainage course may not be changed without Planning Commission approval. Additionally, the development is required to comply with the Federal Clean Water Act and applicable sections of the South Carolina Stormwater Management and Sediment Reduction Act.

LITTLE PINE TREE CREEK



7. WETLANDS

Wetlands are among the most productive ecosystems in the world, comparable to rain forests and coral reefs, with profound ecological, aesthetic, and economic value. As a natural resource, wetlands provide a natural filtration system for sediment and pollution, while serving as critical habitat for numerous species. Socio-economic benefits of wetlands include flood protection, erosion control, groundwater recharge, pollution abatement, sediment filtering, and the provision of a variety of harvestable natural products. There are also recreational values to wetlands in that they provide opportunities for boating, fishing, hunting and nature watching.

Wetlands generally include swamps, marshes, bogs and similar areas. Approximately 90% of the State's wetlands and all wetlands in the Camden area are classified as freshwater. Freshwater wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Freshwater wetlands store excess stormwater to reduce flooding impact, purify water by holding and breaking down pollutants, and trap silt and soil in the wetlands instead of clogging up nearby streams. Some wetlands store water in the rainy season and release the water later into nearby aquifers or underground streams. This cycle recharges the groundwater that supplies many South Carolinians with drinking water.



Wetlands are susceptible to many negative factors. In addition to naturally occurring changes, the human impacts of urban development – such as pond construction, filling, draining of lands for farming, and pollution – have resulted in wetland loss or degradation. The loss of wetlands, especially through filling, increases runoff and impairs beneficial wetland functions of flood control, groundwater recharge, and water quality improvement. Freshwater wetlands decreased nationally at an annual average of 458,000 acres from the 1950s through the 1970s nationwide. This trend was reversed from 1998 to 2004 as wetlands increased at a rate of 32,000 acres per year. From 2004 to 2009, the nation experienced annual average losses of 13,800 acres. (EPA’s Report on the Environment, 2011).

Freshwater, forested wetlands comprise approximately 80% of the State’s wetlands. Total wetlands acreage in South Carolina has declined by one-quarter since the late 1700s, primarily as a result of human activities (USGS National Water Summary on Wetlands Resources, 2016). NWI data is generated on a large scale, necessitating the exact location of any wetlands be determined on a parcel-by-parcel basis. Factors considered in wetlands designation include the presence of hydric soils, hydrophytic vegetation, and hydrological conditions that involve a temporary or permanent source of water that can cause soil saturation. National Wetlands Inventory (NWI) data indicates the presence of significant wetlands along the Wateree River. Wetlands are also concentrated along smaller creeks and streams throughout the City (Map 5-8).



MAP 5-8. WETLANDS

SOURCE: U.S. FISH AND WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY, 2016



E. REGIONAL GREEN INFRASTRUCTURE ASSET INVENTORY AND PLAN

Santee-Lynches Regional Council of Governments (Santee-Lynches) received a 2015 Urban & Community Forestry Financial Assistance Grant from the South Carolina Forestry Commission to develop a regional Green Infrastructure Asset Inventory and Plan. The \$20,000 grant was matched with \$20,000 in cash and in-kind volunteer hours. The Asset Inventory and Plan is intended to assist communities in Clarendon, Kershaw, Lee, and Sumter Counties in better identifying, utilizing, protecting, and restoring natural assets to create healthy ecosystems, communities and economies. Green infrastructure is defined as “the interconnected network of waterways, wetlands, woodlands, wildlife habitats, and other natural areas; greenways, parks, and other conservation lands; working farms, ranches and forests; and wilderness and other open spaces that support native species, maintain natural ecological processes, sustain air and water resources and contribute to the health and quality of life” for communities and people. The green infrastructure network contributes to healthy environments and access to breathable air, clean drinking water, and productive agricultural soils.

By incorporating green infrastructure strategies, communities can preserve and connect open spaces, watersheds, wildlife habitats, parks, and other critical landscapes. The benefits include protecting the health and diversity of wildlife; maintaining natural systems; increasing property values; lowering health care costs; helping people connect with nature; providing access to clean air and water; and helping communities make smarter investments in “grey” infrastructure.

SWEET GUM TRAIL





Santee-Lynches utilized a recommended six-step process in the development of the plan that began with goal setting, review of available data, and mapping the region's ecological and cultural assets. This was followed by a determination of the assets most at risk and potential losses if no action is taken. Assets were then prioritized and opportunities for restoration or improvement determined. The final step will be the implementation of identified opportunities through incorporation in both short and long-range planning. To ensure the long-term maintenance and preservation of the region's green infrastructure, the Plan stresses the need to balance planning for growth and development while maintaining the natural elements critical for a healthy environment.

The Green Infrastructure Asset Inventory includes analyses of agricultural and silvicultural resources; recreational, historic and cultural assets; wildfire ignition density; water quality; land cover change; species richness; protected lands; and intact habitat cores. A core is an area large enough to support more than one individual of a species, which is generally 100 acres or larger of intact habitat. Stakeholder engagement was a key component of the Inventory and Plan development and included input from a wide range of groups representing local governments, conservation groups, state parks, and public utilities. The process yielded a series of objectives and strategies intended to help local governments and organizations assess progress in conserving the region's valued assets and enhancing the long-term health of the community. The five objectives proposed in the Inventory and Plan are supported by strategies and indicators and are listed below.

1. Conserve significant contiguous habitat and enhance habitat connectivity.
2. Protect a network of riverine, lake, and land-based opportunities to enhance human enjoyment.
3. Improve assessment, management, protection, and/or restoration of natural assets to create healthy ecosystems, communities, and economies.
4. Increase public awareness of and support for green infrastructure.
5. Provide water quality planning that efficiently manages resources and protects human and environmental health.
6. Effectively manage natural resources that protect and provide for economic prosperity.

Interactive Green Infrastructure Inventory maps are available on the Santee-Lynches website: <http://www.santeelynchescog.org/environment>. The Santee-Lynches Environmental Planning Advisory Committee has recommended the Plan to the Santee-Lynches Board for adoption. The Plan document will also be available on the Santee-Lynches website once fully adopted. The Santee-Lynches project was the first implementation of the S.C. Forestry Commission's Green Infrastructure Model at a regional scale and was recognized by the National Association of Development Organizations with a 2017 Innovation Award.

F. NATURAL HAZARDS

Natural hazards endanger the health and safety of community residents, jeopardize their economic vitality, and imperil the quality of their environment. The Federal Emergency Management Agency (FEMA) encourages local governments to initiate mitigation actions designed to reduce or eliminate the risks to humans and property from natural hazards. The Santee-Lynches Hazard Mitigation Plan was prepared in 2015 by the Santee-Lynches Council of Governments (SLRCOG) to assist each of the four participating counties (Clarendon, Kershaw, Lee, and Sumter) and their municipalities in avoiding or minimizing vulnerabilities to natural hazards. The City of Camden was a participating jurisdiction in this planning process.



The Santee-Lynches Hazard Mitigation Plan identifies threats to the Region's jurisdictions and provides estimates of the relative risks posed to each community by these hazards. Kershaw County is vulnerable to a number of natural hazards, ranking 12th highest among the State's 46 counties in terms of both the number of past natural hazards and the future probability of natural hazards (South Carolina Hazard Mitigation Plan, 2013). Wildfires rank as the top hazard faced by the County and its municipalities, followed by severe storms, hail, hazardous materials, and winter storms. While Camden's inland location keeps it safe from the direct force of hurricanes, the State's location on the Atlantic increases the probability of heavy rains and flooding generated by hurricanes and tropical storms that can impact inland communities.

1. FLOODING

Floods are broadly classified as either general floods that are long-term events or flash floods that are caused by locally heavy rains in areas where water runs off quickly, moving at very high speeds. Flooding in the Midlands of South Carolina is typically the result of excessive precipitation over a span of days, intense rain in a short period of time, river overflow due to debris jam, or failure of water structures such as dams. While flooding can happen almost anywhere given atmospheric conditions or lack of proper maintenance to flood control and drainage systems, flooding generally occurs in floodplains. Floodplains are areas that consist of a stream or river (floodway) and the adjacent areas that have been or can be covered by water (floodway fringe). Floodplains perform a critical function by temporarily storing and carrying floodwaters, reducing potential flood peaks, recharging groundwater supplies, and providing plant and animal habitats. Development within a floodplain expands the floodplain boundary and increases the volume of runoff, making more areas and properties susceptible to flooding. Local development review processes should ensure that new construction and activity will not increase flooding on adjacent and nearby properties.

In 1968, Congress passed the National Flood Insurance Act, which created the National Flood Insurance Program (NFIP). The Act called for identification and publication of all floodplain areas that have special flood hazards and the establishment of flood-risk zones in all such areas. Flood Insurance Rate Maps (FIRM) are prepared and updated by FEMA to delineate the boundaries of each community's special flood hazard areas using available data or other approximation methods. The maps are intended to assist communities in managing floodplain development, as well as assisting insurance agencies and property owners in identifying those areas where the purchase of flood insurance is advisable.

FIRMs denote the portion of the floodplain that is subject to inundation by the base flood and/or flood-related erosion hazards. Flood hazard areas identified on FIRMs are denoted as Special Flood Hazard Areas (SFHA). An SFHA is defined as the area that will be inundated by the flood event having a 1% chance of being equaled or exceeded in any given year. This is also known as the base flood or 100-year flood. SFHAs are considered as high risk areas for flooding and are denoted on the City of Camden FIRMs as Zone A and Zone AE. Moderate risk flood hazard areas, labeled as Zone X on the City FIRM, are the areas between the limits of the base flood and the 0.2% annual chance of being equaled or exceeded in any given year, also known as a 500-year flood. All other areas outside of the SFHA and higher than the elevation of the 0.2% annual chance of flood are considered to have minimal chance of flood hazard.

Regulatory floodways are also delineated on FIRMs. A floodway is a channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Communities are required to regulate development in these floodways to ensure that there are no increases in upstream flood elevations.



The goal of the NFIP is to reduce the impact of flooding on private and public structures by providing affordable insurance for property owners. Recognizing that local planning is a crucial tool for minimizing future flood damage, the program encourages communities to adopt and enforce floodplain management regulations to mitigate the effects of flooding on new and improved structures. Local governments determine and supervise the use of land within their jurisdictions, making them the frontline of comprehensive floodplain management. The primary requirement for community participation in the NFIP is the adoption and enforcement of floodplain management regulations that meet the minimum NFIP regulatory standards. The impetus for obtaining financial and technical assistance from the state and federal levels also originates with the local community. Managing development can reduce losses by avoiding encroachment into flood-prone areas, protecting floodplain resources, and building with flood-resistant measures.

Floodplain management minimizes the potential for flood damage to new construction and avoids aggravating existing flood hazard conditions that could increase potential flood damage to existing structures. To protect structures in flood-prone areas, NFIP regulations require that the lowest floor of all new construction, and substantial improvements of residential structures, be elevated to or above the Base Flood Elevation (BFE). Figure 5-1 illustrates the various aspects of a floodplain using a cross-section diagram of a 100-year floodplain.

The SLRCOG Hazard Mitigation Plan notes that Camden is at a greater risk of flooding than most of Kershaw County due to its location on the Wateree River and the lower elevations in the western and southern areas of the City, particularly along Big Pine Tree Creek. The City of Camden adopted a Flood Damage Prevention Ordinance in 1983 to address special flood hazard areas subject to “periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.” The purpose of the ordinance is to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by restricting or prohibiting uses that are dangerous to health, safety and property due to water or erosion hazards. The regulations also require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction. The Ordinance applies to all areas of special flood hazard as identified by the FEMA Flood Insurance Rate Maps (FIRM) for the City of Camden.

The Building Official for the City of Camden is responsible for implementing the Flood Damage Prevention Ordinance. No structure may be located, extended, converted or structurally altered in the City without full compliance with the regulations. All permit applications for development activities within special flood hazard areas must include a plan showing the nature, location, dimensions, and elevations of the area in question drawn to scale. The plan must also show the location of existing or proposed structures, fill, storage of materials, and drainage facilities. If a water-course will be altered or relocated as a result of proposed development, the application for the development permit must include a description of the watercourse alteration or relocation.

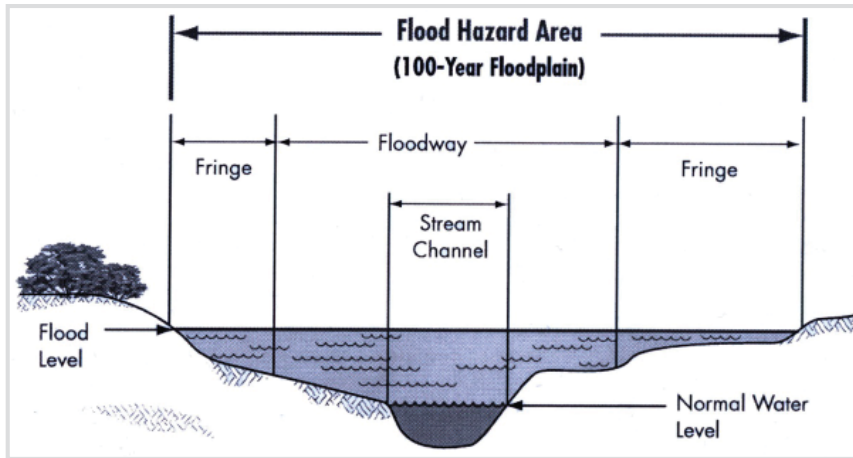
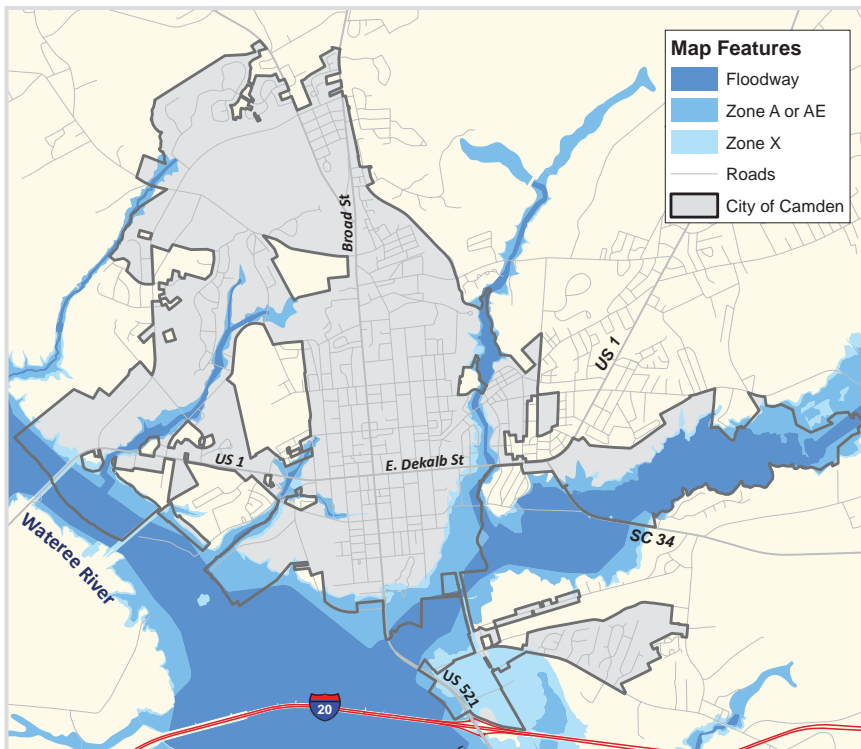


FIGURE 5-1. FLOODPLAIN DIAGRAM

SOURCE: FLOODPLAIN MANAGEMENT IN SOUTH CAROLINA, QUICK GUIDE, SCDNR, 2004



MAP 5-9. FLOOD ZONES

SOURCE: KERSHAW COUNTY INFORMATION SERVICES DEPARTMENT, 2016

While buildings often cannot be removed from harm’s way, they can be protected on site. In areas of low flood threat, such as those subject to infrequent low velocity or shallow flooding, flood-proofing in the form of barriers (floodwalls, berms, levees) or dry flood-proofing (sealing a building against floodwaters) can effectively prevent flood damage. The Flood Damage Prevention Ordinance requires certification from a registered, professional engineer or architect that a non-residential, flood-proofed structure meets flood-proofing criteria for the lowest floor elevation to which the structure will be protected.



The following provisions are required by the City in areas of special flood hazard:

- Applicant must demonstrate that development cannot be located outside of the Special Flood Hazard Area (SFHA) and that encroachments onto the SFHA are minimized.
- New construction and substantial improvements must be anchored to prevent flotation, collapse or lateral movement of the structure.
- New construction and substantial improvements must be constructed with flood-resistant materials and utility equipment.
- New construction and substantial improvements must be constructed by methods and practices that minimize flood damage.
- Electrical, heating, ventilation, plumbing, air conditioning equipment (including ductwork) and other service facilities must be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
- New and replacement water supply systems and sanitary sewage systems must be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the sewage systems into floodwaters.
- On-site waste disposal systems must be located and constructed to avoid impairment or contamination from them during flooding.
- Any alteration, repair, reconstruction or improvement to a structure which is in compliance with the provisions of the flood regulations must meet the requirements of “new construction.”
- Nonconforming buildings or uses may not be enlarged, replaced or rebuilt unless accomplished in conformance with the provisions of the flood ordinance.
- In addition to requirements for floodplain construction, all buildings must meet all applicable Americans with Disabilities Act (ADA) requirements, with the exception of one and two-family dwellings.
- Critical development must be elevated to the 500-year flood elevation or to the highest known historical flood elevation, whichever is greater. Critical developments are those that are critical to the community’s public health and safety; or essential to the orderly functioning of the community; or stores or produces highly volatile, toxic or water-reactive materials; or houses occupants that may be insufficiently mobile to avoid loss of life or injury in an emergency. Examples include detention centers, jails, hospitals, schools, nursing homes, and wastewater treatment and water plants.
- Gas or liquid storage tanks, either located above ground or buried, must be anchored to prevent flotation or lateral movement resulting from hydrodynamic and hydrostatic loads.
- Swimming pool equipment rooms must either be built above the base flood elevation or housed in a structure designed to prevent water from entering or accumulating with the components during a base flood and within which the utility equipment is anchored to prevent flotation.

The lowest floors of new construction or substantial improvement of residential structures in SFHAs must be elevated no lower than one foot above the base flood elevation (BFE). For new construction or substantial improvement of non-residential structures, either the lowest floor must be elevated no lower than one foot above the base flood elevation, or the structure must be floodproofed so that all areas of the building below one foot above the BFE is watertight. Certification by a registered engineer or architect is required for floodproofing of non-residential construction. Any new construction and substation improvements to solid foundation perimeter walls of elevated buildings must include openings sufficient with net total area of not less than one square inch for every square foot of enclosed area subject to flooding, with the bottom of all such openings no higher than one foot above grade.



No encroachments, fill, new construction, substantial improvements, additions and other developments are allowed within floodways unless hydrologic and hydraulic analyses performed in accordance with standard engineering practice demonstrate that the proposed encroachment will not result in increased flood levels during a base flood. Manufactured homes are not permitted in floodways except in an existing manufactured home park or subdivision. The replacement home must also meet anchoring and elevation standards for new or improved construction.

In areas of special flood hazard where base flood elevation data are not available, the applicant must provide analysis that generates flood elevations for all proposed developments containing at least 50 lots or five acres. No encroachments, including fill, new construction, substantial improvements or new development, are allowed within 100 feet of the stream bank in such areas, unless a registered professional engineer certifies that such encroachment will not result in any increase in flood levels during base flood discharge. If the BFE data is available from other sources, all new construction and substantial improvements must meet the same standards as those where base flood elevation has been determined. Where BFE is not available from any source, the Ordinance provides alternate methods to determine the BFE.

Kershaw County ranks 27th highest statewide in future probability of flooding, with an annual frequency interval of 2.36 events (2013 S.C. Hazard Mitigation Plan). The Santee-Lynches Hazard Mitigation Plan identified five flood events in Kershaw County between 2010 and 2013, with three of the five recorded in June and May of 2013. In general, Kershaw County has experienced moderate flood events in recent history, which is attributed in part to the presence of Lake Wateree and the Wateree River basin. While most of the areas within the 100-year floodplain of the river basin are undeveloped, the vulnerable area south of Camden near the intersection of U.S. Highway 521 and I-20 includes both commercial and industrial development.

2. WILDFIRES

The South Carolina Hazard Mitigation Plan defines a wildfire as “any type of forest, grass, brush or outdoor fire that is not controlled or managed.” Fire probability depends on a number of factors including: local weather conditions; the prevalence of outdoor activities such as camping; debris burning and construction; and the degree of public cooperation and support of fire prevention measures. Weather is one of the most significant factors in the severity of wildfires, with wind speed, temperature and humidity impacting the intensity of fires and the rate with which they spread. Drought increases the probability of wildfires by creating dry conditions, resulting in additional fuel loads. Other natural disasters such as tornadoes and hurricanes produce additional fuel loads through downed trees and vegetation, block access, produce lightning, and create sparks from damaged electric and other utilities. The forest fire hazard potential is generally highest in late winter and early spring, when more vegetation is dead or dormant.

More than 80% of forest fires statewide are caused by “negligent human behavior” such as discarded cigarette butts or improperly extinguished campfires. South Carolina Forestry Commission (SCFC) data indicates that burning debris is a major contributor to more than 41% of wildfires in the State. An average of 3,000 fires occur annually statewide, burning a combined average of 18,000 acres each year (2013 South Carolina Hazard Mitigation Plan). The Santee-Lynches Hazard Mitigation Plan denotes wildfires as the natural hazard with the greatest percentage chance of occurring each year in Kershaw County. According to Plan data, there were 2,412 wildfire events in the County between 1988 and fiscal year 2012,



affecting 7,564 acres of land. Kershaw County ranks 16th highest statewide in annual probability of future wildfires. However, more urbanized areas such as Camden are less at risk for wildfire because there is less vegetation over large areas.

3. SEVERE STORMS

Severe storms include thunderstorms and the effects from strong storms such as wind, hail, and lightning. While severe storms are fairly common in South Carolina and the Midlands, only a small percentage of these storms actually cause significant damage. According to NOAA's Storm Events Database there were 48 thunderstorm and wind events recorded in the City of Camden from 1997 through 2016, resulting in no deaths or injuries and a total property damage of \$137,000. There were also 20 hail events and one lightning event reported during the same period, with \$440,000 in property damage and no injuries or deaths.

Severe storms are ranked as the natural hazard with the second highest annual chance of occurrence in Kershaw County, followed by hail and then lightning at a much lower percentage (2016 Santee-Lynches Hazard Mitigation Plan). The County ranks 21st highest statewide in future probability of severe storms, with a frequency interval of 0.32 per year (2013 S.C. Hazard Mitigation Plan).

4. SEVERE WINTER STORMS

Winter storms include snow, sleet, freezing rain, ice or a mixture of these elements, and can range from moderate precipitation lasting only a few hours to blizzard conditions with blinding, wind driven snow that continue for several days. Larger winter storms may affect several states, while smaller storms may be localized to a single community. Many winter storms are accompanied by low temperatures, some resulting in temperatures below freezing (32^o Fahrenheit). Agricultural production can be seriously impacted when temperatures remain below the freezing point for an extended period of time.

Sleet is comprised of raindrops that freeze before reaching the ground. While sleet does not stick to surfaces or objects, it can accumulate and cause a hazard to motorists. Freezing rain falls onto a surface that has a temperature below freezing, forming a glaze of ice. Ice storms occur when freezing rain falls and freezes immediately upon impact. Even small accumulations of ice cause a significant hazard, especially on sidewalks and roads, power lines, and trees. Transportation, communications, and power can be disrupted for days in an ice storm.

Kershaw County has a comparatively low annual chance of winter storms at only 9.6% (2016 Santee-Lynches Hazard Mitigation Plan). Based on data provided in the 2013 South Carolina Hazard Mitigation Plan, the County ranks 17th highest out of 46 counties statewide in future probability of winter storms, with a frequency level of one per year. NOAA's Storm Events Database reports that 12 winter storm events impacted Kershaw County from 1997 to 2016. Winter storms were recorded in January and February of 2014, with the first producing accumulations of snow and sleet of from one to three inches and the second producing one-third an inch of ice and up to six inches of snow and sleet, resulting in power outages in the southern half of the County. The most recent winter event occurred in February 2015, producing snow accumulations between one and two inches.



5. TORNADOES

Tornadoes are violent windstorms characterized by a twisting, funnel shaped cloud that extends to the ground. They are often generated by thunderstorm activity, when cool, dry air intersects and overrides a layer of warm, moist air, forcing the warm air to rise rapidly. However, tornadoes can also be spawned by hurricanes and tropical storms. The National Weather Service reports that tornado wind speeds typically range from 40 miles per hour to more than 300 miles per hour. While tornado damage is generally the result of high winds and wind-blown debris, tornadoes are often accompanied by potentially damaging lightning or large hail.

Tornadoes are more likely to occur during the spring and early summer months of March through June. While they can occur at any time of day, tornadoes are most likely to form in the late afternoon and early evening. Although most tornadoes are a few dozen yards wide and touch down briefly, some can carve a path more than a mile wide and several miles long. The destruction caused by tornadoes depends on the intensity, size, and duration of the storm. Typically, tornadoes cause the greatest damage to structures of light construction such as manufactured homes, with impacts typically localized. The Fujita-Pearson Scale for Tornadoes (F-scale) was originally developed in 1971 to rate tornado intensity based on the damage inflicted on man-made structures and vegetation. It was replaced by the Enhanced Fujita scale in 2007 (Table 5-9).

TABLE 5-9. FUJITA SCALE FOR TORNADOES

F-SCALE NUMBER	WIND SPEED	TYPE OF DAMAGE
EF0	60-85 mph	Minor damage. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees push over.
EF1	86-110 mph	Moderate damage. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111-135 mph	Considerable damage. Roofs torn off well-constructed houses; foundations of frame houses shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF3	136-165 mph	Severe damage. Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF4	166-200 mph	Devastating damage. Well-constructed houses and whole frame houses completely leveled; cars thrown and small missiles generated.
EF5	>200 mph	Extreme damage. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m; steel reinforced concrete structure badly damaged; high-rise buildings have significant structural deformation.

SOURCE: S.C. HAZARD MITIGATION PLAN, SCEMD, 2013

South Carolina has been affected by more than 840 tornadoes since 1960 (NOAA Storm Events Database, 2016). SCEMD data shows that Kershaw County ranks 13th highest statewide for tornado activity probability, with an estimated recurrence interval of only 2.48 years. The Santee-Lynches Hazard Mitigation Plan estimates the annual chance of a tornado in the County at 48%. Four tornadoes were reported in the City of Camden between 1997 and 2016, resulting in \$225,000 in property damage and two injuries. The most recent event was reported on April 26, 2006, when an F0 tornado touched down, toppling some trees. Two tornados touched down on September 7, 2004, the first an F0 with no injuries or property damage reported and the second an F3 that resulted in one injury and demolished several mobile homes and outbuildings, severely damaged several horse stables, and downed numerous trees and power lines.



6. EARTHQUAKES

An earthquake is the motion or trembling of the ground caused by a sudden displacement of rock in the Earth’s crust. Earthquakes can impact large geographic areas, causing devastating property damages, deaths and injuries, and the disruption of the social and economic function of the affected area. Most property damage and earthquake related deaths are caused by the failure and collapse of structures due to the shaking of the ground. The level of damage depends on the amplitude and duration of the shaking. Earthquakes can spawn additional hazards such as landslides and liquefaction, in which the ground soil loses the ability to resist shear and flows, much like quick sand. Anything relying on the substrata for support can shift, tilt, rupture, or collapse during liquefaction (S.C. Hazard Mitigation Plan, 2013).

TABLE 5-10. RICHTER SCALE

RICHTER MAGNITUDES	EARTHQUAKE EFFECTS
Less than 3.5	May or may not be detectable by people, recorded by instruments
3.5-5.4	Often felt, dishes break, doors and windows rattle
Under 6.0	Slight damage to buildings
6.1-6.9	Moderate damage to buildings
7.0-7.9	Serious damage, buildings may collapse, loss of life
8 or greater	A great earthquake that causes total damage and great loss of life

SOURCE: S.C. HAZARD MITIGATION PLAN, SCEMD, 2013

Earthquakes are measured in terms of their magnitude and intensity. The most widely known measure is magnitude. Magnitude is calculated using the Richter scale, a logarithmic scale that describes the energy release of an earthquake through a measure of the shock wave amplitude (Table 5-10). Intensity is commonly measured using the Modified Mercalli Intensity (MMI) Scale, based on direct and indirect measurements of seismic effects.

South Carolina experiences between 10 and 15 earthquakes each year, with only three to five felt by residents. Because of the low frequency of noticeable events, many people are unaware of the earthquake risk in the State. The Midlands region of South Carolina is considered at low risk for major earthquakes of a magnitude of 6 or more on the Richter scale. Under a worst case scenario modeled by SCDNR and the S.C. Geological Survey (SCGS) using magnitudes similar to the 1886 and 1913 earthquakes in Charleston and Union County, the intensity in the Camden area would likely register at Level VIII on the Modified Mercalli Intensity Scale. During a Level VIII earthquake, drivers have trouble steering, poorly built structures suffer severe damage, and ordinary buildings partially collapse. Tree branches break, houses not bolted down can shift on their foundations, and tall structures such as towers and chimneys can twist and fall.

Approximately 70% of earthquake activity in South Carolina is located in the Middleton Place-Summerville Seismic Zone located 12 miles northwest of Charleston and well south of the City of Camden. The Camden area has had very little history of earthquakes, with only three recorded in Kershaw County between 1843 and 2011, including one of 2.9 magnitude in April 1843, one of 2.8 magnitude in November 1975, and the most recently recorded event in June 2011 with a magnitude of 2.3. The epicenter of the 2011 event was located six miles north of Camden. While earthquakes are rare, the County is bisected by the Pax Mountain fault system that runs from Elgin to Bethune. This system indicates the possibility of future earthquakes. While the ability to accurately predict when and where earthquakes will occur is not yet available, forecasts provided in the S.C. Hazard Mitigation Plan estimate a 1.6% future probability (chance per year) of an earthquake occurring in Kershaw County.



7. HURRICANES AND TROPICAL STORMS

The majority of hurricanes and tropical storms occur during the official six-month Atlantic hurricane season that begins in June and lasts through November. The peak of the hurricane season generally occurs early to mid-September. Three types of tropical cyclones can occur and impact the State’s coastal and inland communities. A tropical depression is an organized system of clouds and thunderstorms with a defined circulation and maximum sustained winds of 38 mph (33 knots) or less. A tropical storm is an organized system of strong thunderstorms with a defined circulation and maximum sustained winds of 39 to 73 mph (34-63 knots). A hurricane is an intense tropical weather system with a well-defined circulation and maximum sustained winds of 74 mph (64 knots) or higher.

Hurricane intensity is further classified by the Saffir-Simpson Scale, which rates hurricane intensity on a scale of 1 to 5, with 5 being the most intense (Table 5-14). The Scale categorizes hurricane intensity based on a combination of maximum sustained winds, barometric pressure, and storm surge potential. Categories 3, 4, and 5 are classified as “major” hurricanes. While hurricanes within this range comprise only 20% of total landfalls, they account for more than 70% of the hurricane damage in the United States (2013 S.C. Hazard Mitigation Plan).

TABLE 5-11. SAFFIR-SIMPSON SCALE

CATEGORY	WINDS (MPH)	DAMAGE LEVEL	DESCRIPTION
1	74–95	Minimal	Very dangerous winds will produce some damage. Well constructed frame homes could have some damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap and shallowly rooted trees may be topples. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days
2	96–110	Moderate	Extremely dangerous winds will cause extensive damage. Well constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near total power loss is expected with outages that could last from several days to weeks.
3 (major)	111–129	Extensive	Devastating damage will occur. Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Storm surges 9 to 12 feet above normal tide heights. Electricity and water will be unavailable for several days to weeks after the storm passes.
4 (major)	130–156	Extreme	Catastrophic damage will occur. Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5 (major)	157+	Catastrophic	Catastrophic damage will occur. A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

SOURCES: S.C. STATE CLIMATOLOGY OFFICE, 2016; NATIONAL HURRICANE CENTER, NOAA, 2016

Camden’s inland location does not eliminate its vulnerability to the secondary effects of hurricanes and tropical storms, as evidenced by Kershaw County’s ranking of 24th statewide in future probability of a hurricane event (2013 S.C. Hazard Mitigation Plan). The estimated frequency interval for hurricanes in Kershaw County is 2.36 years. The 2016 Santee-Lynches Hazard Mitigation Plan noted that 15 hurricanes passed over Kershaw County during a time period that extended from the late 1800s through 2014, resulting in an annual chance of future hurricane events of 9.5%.



Hurricanes and tropical storm damage may also result from spawned tornadoes and inland flooding caused by associated heavy rainfall that usually accompanies these storms. While the threat exists for tornadoes to develop in all storm quadrants, they primarily develop in the northeast quadrant of the storm, as far as 200-400 miles from the storm's center of circulation. Widespread torrential rains, often in excess of six inches, can produce deadly and destructive floods. Long after winds have subsided, hurricanes can generate immense amounts of rain. For instance, in 1999 Hurricane Floyd produced high rainfall totals that resulted in massive inland flooding in South and North Carolina, including Kershaw County.

Hurricane Hugo made landfall in the Charleston area in September 1989 as a Category 4 hurricane with sustained winds of 140 mph and wind gusts exceeding 160 mph. Along a path that ran more than 200 miles inland to Charlotte, North Carolina, the hurricane toppled trees and spawned tornadoes, causing extensive damage and power outages. Hugo was the costliest storm in South Carolina history, resulting in damages of more than \$7 billion to property and crops. More recently, Hurricane Matthew made landfall as a Category 1 hurricane near McClellanville, South Carolina in October 2016, bringing wind and heavy rain of between six and ten inches inland to Kershaw County, with 4.34 inches recorded in Camden.

8. DROUGHT

A drought is a period of time with less than normal rainfall. A meteorological drought occurs when precipitation consistently falls short of average levels for periods of months or years. A hydrological drought occurs when the amount of water needed by crops for growth exceeds the amount available in the soil. Periodic droughts are documented throughout South Carolina's climate history, with every decade since 1900 including three or more years of below normal rainfall. The most damaging droughts in recent history occurred in 1954, 1986, 1998 to 2002, and fall 2006 to spring 2009. Less severe droughts were reported in 1988, 1990, 1993, and 1995. Adverse drought-related impacts on the population and economy occurred in the areas of agriculture, forestry, tourism, power generation, public water supplies, and fresh water fisheries. In recent years a moderate drought was declared in seven Upstate counties in August 2016, with the remainder of the State upgraded to incipient status. A moderate drought status indicates an increasing threat of drought, while a status of incipient means that there is a threat of drought. Drought status has fluctuated in the Camden area in recent months, from a drought status of "abnormally dry" at the end of 2016 to no drought by April 2017 (United States Drought Monitor, 2017).



G. GOALS, OBJECTIVES AND STRATEGIES FOR IMPLEMENTATION

GOALS/OBJECTIVE/STRATEGIES	ACCOUNTABLE AGENCY	TIME FRAME
GOAL 5.1. PROTECT AND IMPROVE AIR QUALITY IN THE CITY, COUNTY AND REGION.		
OBJECTIVE 5.1.1. CONTINUE TO SUPPORT LOCAL AND REGIONAL PLANS AND POLICIES RELATED TO AIR QUALITY.		
<i>STRATEGY 5.1.1.1.</i>		
Continue coordination and partnership with jurisdictions in the Midlands and Santee-Lynches Regions in collaborative efforts to improve air quality.	City of Camden Kershaw County SRLCOG CMCOG SCDHEC Employers/Regional Partners	On-going
<i>STRATEGY 5.1.1.2.</i>		
Provide information to the public about air quality, particularly air quality alerts.	City of Camden Kershaw County SCDHEC	On-going
<i>STRATEGY 5.1.1.3.</i>		
Continue to enforce open burning regulations.	City of Camden	On-going
<i>STRATEGY 5.1.1.4.</i>		
Support, enable and promote alternative transportation such as ride-sharing, walking, and biking where feasible to reduce vehicular emissions.	City of Camden Kershaw County Regional Partners	On-going
GOAL 5.2. PROTECT AND PRESERVE THE LAND RESOURCES OF THE CITY.		
OBJECTIVE 5.2.1. PROVIDE A HEALTHY URBAN FOREST AND LANDSCAPE.		
<i>STRATEGY 5.2.1.1.</i>		
Continue to administer and enforce the City's tree protection policies and regulations.	City of Camden	On-going
<i>STRATEGY 5.2.1.2.</i>		
Continue to provide guidance to residents and businesses about selection, planting and maintenance of trees and plants.	City of Camden	On-going
<i>STRATEGY 5.2.1.3.</i>		
Continue to administer and enforce the Tree Protection and Landscaping requirements included in the City's Zoning Ordinance.	City of Camden	On-going
<i>STRATEGY 5.2.1.4.</i>		
Maintain the City's status as a <i>Tree City USA</i> .	City of Camden	On-going
<i>STRATEGY 5.2.1.5.</i>		
Conduct a comprehensive City tree inventory every 5 years.	City of Camden	Every 5 years
OBJECTIVE 5.2.2. PROTECT RARE AND ENDANGERED SPECIES HABITAT WITHIN THE CITY.		
<i>STRATEGY 5.2.2.1.</i>		
Develop partnerships among local governments, SCDNR, property owners, and conservation organizations to inventory and map locations of rare and endangered species within the City.	City of Camden SCDNR Conservation Organizations Property Owners	2027
<i>STRATEGY 5.2.2.2.</i>		
Review existing regulations and policies to remove obstacles and support opportunities to protect rare and endangered species habitat such as development of greenways and protection of floodplains.	City of Camden	2022



GOALS/OBJECTIVE/STRATEGIES	ACCOUNTABLE AGENCY	TIME FRAME
STRATEGY 5.2.2.3.		
Support efforts by public and private organizations to protect critical habitats in the City through conservation easements, greenway development and other measures as appropriate.	City of Camden Property/Business Owners Conservation Organizations SCDNR	On-going
OBJECTIVE 5.2.3. MAINTAIN AND EXPAND OUTDOOR PARKS AND RECREATION FACILITIES FOR CITY RESIDENTS AND VISITORS.		
STRATEGY 5.2.3.1.		
Explore the development of a parks, recreation and open space plan for the City to include an inventory of all facilities, needed upgrades, survey of park and recreation needs, and plans for future growth and development of City park and recreation resources.	City of Camden Kershaw County Kershaw County School District	2022
STRATEGY 5.2.3.2.		
Work with the County and other municipalities toward promotion and expansion of outdoor parks and recreation facilities countywide as part of a comprehensive park system.	City of Camden Kershaw County Municipalities Kershaw County School District SCDNR SCPRT	On-going
OBJECTIVE 5.2.4. ESTABLISH, PROTECT, AND EXPAND NATURAL AREAS AND OPEN SPACE THROUGHOUT THE CITY.		
STRATEGY 5.2.4.1.		
Explore ways to incorporate applicable and appropriate strategies from the Santee-Lynches Green Infrastructure Plan into plans, policies, and requirements to preserve, protect, and utilize natural resource assets.	City of Camden Kershaw County Municipalities Neighboring Counties SLRCOG	On-going
STRATEGY 5.2.4.2.		
Support and participate in regional Green Infrastructure education and implementation efforts, and revisions and updates as needed.	City of Camden SLRCOG	On-going
STRATEGY 5.2.4.3.		
Provide annual updates of available geospatial data for green infrastructure thematic areas to ensure continued accuracy and completeness of the regional inventory.	City of Camden	On-going
STRATEGY 5.2.4.3.		
Review existing regulations and policies to identify additional opportunities as well as barriers for protecting existing natural areas and open space.	City of Camden	2022
STRATEGY 5.2.4.4.		
Utilize wetlands as appropriate and feasible for compatible recreation activities such as walking, biking, canoeing, and kayaking.	City of Camden Developers	On-going
STRATEGY 5.2.4.5.		
Continue to require open space in larger multi-family residential developments, manufactured home parks, and single-family developments, while exploring expanded requirements to apply to additional types of new developments and uses.	City of Camden Developers	On-going
STRATEGY 5.2.4.6.		
Support efforts by public and private organizations and property owners to conserve open space, natural areas and scenic vistas in the City through easements and other measures as appropriate.	City of Camden Kershaw County Property Owners Conservation Organizations	On-going
STRATEGY 5.2.4.7.		
Encourage stewardship of rural landscapes and forests using public and private tools, including conservation easements.	City of Camden Property Owners Conservation Organizations	On-going



GOALS/OBJECTIVE/STRATEGIES	ACCOUNTABLE AGENCY	TIME FRAME
GOAL 5.3. PRESERVE AND PROTECT THE WATER RESOURCES OF THE CITY OF CAMDEN.		
OBJECTIVE 5.3.1. CONTINUE EXPANSION OF SEWER SERVICE TO ADDITIONAL AREAS TO REDUCE DEPENDENCE ON SEPTIC SYSTEMS AND THE RISK OF CONTAMINATION OF SURFACE AND GROUNDWATER SOURCES.		
<i>STRATEGY 5.3.1.1.</i>		
Extend sewer service to currently unserved or underserved areas to minimize the need for septic tanks where conditions are not suitable or water sources may be compromised.	City of Camden	On-going
<i>STRATEGY 5.3.1.2.</i>		
Upgrade existing wastewater treatment facility to accommodate the expansion of water and sewer service as needed.	City of Camden	On-going
OBJECTIVE 5.3.2. MONITOR, MAINTAIN AND IMPROVE WATER QUALITY AND QUANTITY TO MEET THE NEEDS OF CITY RESIDENTS, EMPLOYERS, AND INSTITUTIONS.		
<i>STRATEGY 5.3.2.1.</i>		
Coordinate with other water providers to develop a countywide approach to water conservation and protection.	City of Camden Kershaw County Lugoff/Elgin Water Authority Utility Providers	On-going
<i>STRATEGY 5.3.2.2.</i>		
Explore local and regional strategies to minimize non-point source pollution and institute Best Management Practices for the protection of water resources.	City of Camden Kershaw County Utility Providers SLRCOG SCDHEC	On-going
<i>STRATEGY 5.3.2.3.</i>		
Support and coordinate with SCDHEC to mitigate identified water quality impairments.	City of Camden Utility Providers NPDES Permitted Dischargers SCDHEC	On-going
<i>STRATEGY 5.3.2.4.</i>		
Continue to administer and enforce low impact design requirements, coordinating with Kershaw County, SLRCOG and neighboring jurisdictions to promote regional consistency.	City of Camden Kershaw County Neighboring Jurisdictions SLRCOG	On-going
<i>STRATEGY 5.3.2.5.</i>		
Utilize private and public incentives, technical assistance, public awareness, and regulations to promote sustainable environmental best practices by individuals, businesses and developers.	City of Camden Property Owners/Developers Business Owners	On-going
OBJECTIVE 5.3.3. MITIGATE THE IMPACT OF NEW DEVELOPMENT AND REDEVELOPMENT ON WATER QUALITY.		
<i>STRATEGY 5.3.3.1.</i>		
Review current zoning and land development regulations for possible obstacles to water quality preservation and for opportunities to ensure the protection of water source quality.	City of Camden	2022
<i>STRATEGY 5.3.3.2.</i>		
Review impervious surface limitations to minimize stormwater runoff and update as needed.	City of Camden	2022
<i>STRATEGY 5.3.3.3.</i>		
Continue to support the regulation of land-disturbance activities to control erosion and sedimentation.	City of Camden	On-going
OBJECTIVE 5.3.4. PROTECT THE EXISTING WETLAND RESOURCES OF THE CITY.		
<i>STRATEGY 5.3.4.1.</i>		
Explore the incorporation of wetlands protection in zoning and land development ordinances.	City of Camden	2022



GOALS/OBJECTIVE/STRATEGIES	ACCOUNTABLE AGENCY	TIME FRAME
STRATEGY 5.3.4.2.		
Support efforts by public and private organizations to protect wetlands in Kershaw County through conservation easements and other measures as appropriate.	Kershaw County Property Owners SCDNR Conservation Organizations	On-going
OBJECTIVE 5.3.5. MINIMIZE FLOODING RISK TO CITY RESIDENTS AND BUSINESS OWNERS THROUGH THE PROTECTION OF FLOODPLAINS AND FLOODWAYS.		
STRATEGY 5.3.5.1.		
Periodically review floodplain regulations and procedures to ensure protection per FEMA requirements and to evaluate conditions that may require more stringent standards.	City of Camden Kershaw County	Every two years
STRATEGY 5.3.5.2.		
Periodically review the City of Camden Flood Damage Prevention Ordinance and update as needed.	City of Camden	2019
GOAL 5.4. ENHANCE AND PROMOTE ACCESS TO NATURAL RESOURCES AND ASSOCIATED RECREATIONAL ACTIVITIES FOR RESIDENTS AND VISITORS.		
OBJECTIVE 5.4.1. ENCOURAGE COORDINATION AMONG CITY AND COUNTY RECREATION AND NATURAL RESOURCE MANAGERS.		
STRATEGY 5.4.1.1.		
Consider the formation of a natural and recreational resources advisory committee to explore opportunities for increased coordination and cooperation between the City, Kershaw County, and municipalities to include planning and implementation of public and private recreation and natural resource programs and activities.	City of Camden Kershaw County Towns of Bethune and Elgin Kershaw County School District SCDNR SCPRT Duke Energy	2027
OBJECTIVE 5.4.2. STRENGTHEN AWARENESS OF THE NATURAL RESOURCES AND RECREATIONAL OPPORTUNITIES AVAILABLE IN CAMDEN AMONG RESIDENTS AND VISITORS.		
STRATEGY 5.4.2.1.		
Convene an advisory committee to determine the most effective approaches for raising awareness among residents and visitors of the abundant natural resources and recreation opportunities that are available.	City of Camden Kershaw County Chamber of Commerce Kershaw County School District SCPRT SCDNR Duke Energy Recreation Interest Groups	2027
STRATEGY 5.4.2.2.		
Continue to develop, update, and distribute promotional information on natural resource and recreational opportunities in the City and County in both digital and printed formats for distribution through a wide variety of media to include posting on web sites and social media applications, distribution of print materials, and inclusion in appropriate publications.	City of Camden Kershaw County Chamber of Commerce Kershaw County School District SCPRT SCDNR Local and Regional Media Recreation Interest Groups	On-going
OBJECTIVE 5.4.3. ENHANCE AND PROMOTE ACCESS TO THE WATEREE RIVER.		
STRATEGY 5.4.3.1.		
Develop riverfront public use spaces.	City of Camden Kershaw County SCDNR SCPRT	2027



GOALS/OBJECTIVE/STRATEGIES	ACCOUNTABLE AGENCY	TIME FRAME
STRATEGY 5.4.3.2.		
Identify potential additional public access points along the Wateree River.	City of Camden Kershaw County SCDNR Recreation Interest Groups	2027
STRATEGY 5.4.3.3.		
Acquire green spaces along the Wateree River and tributary basins to improve access to the Wateree River Blue Trail.	City of Camden Kershaw County SCDNR Conservation Organizations	2027
OBJECTIVE 5.4.4. DEVELOP A COMPREHENSIVE NETWORK OF RECREATIONAL TRAILS, GREENWAYS AND PATHS IN THE CITY.		
STRATEGY 5.4.4.1.		
Work with community partners and municipalities to implement, as appropriate and feasible, the recommendations of the Kershaw County Bicycle, Pedestrian, and Greenways Plan.	City of Camden Kershaw County Towns of Bethune and Elgin Community Partners	On-going
STRATEGY 5.4.4.2.		
Research and develop the abandoned Norfolk Southern rail corridor as a greenway.	City of Camden Kershaw County	2027



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